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ORIGINAL ARTICLES.

A CLINICAL LECTURE ON THE MECHANICAL TREATMENT OF POTT'S DISEASE.

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The first case we will consider to-day is this boy of nine years, who has had spondylitis for two years, and whose mother died of phthisis soon after his birth. There is no history of traumatism so far as it can be elicited, and his step-mother states that her attention was first drawn to his condition by his complaints of pain. He described this pain as passing from his back around the right hip to the front of the abdomen, and that the pain was not constant, but was felt more in the afternoon, after exercise. She also noticed that he afterwards began to carry himself stiffly, and carefully avoided bending the spine, resting often in a stooping posture, with his hands upon his knees, thus transferring the weight of the head and upper extremities to the legs directly. She also noticed, about this time, a protrusion, or "knuckle," as she termed it, in the median line posteriorly, and this became more noticeable if he bent forward. He was then seen by the family physician, who diagnosed disease of the lower dorsal vertebræ, and recommended a plaster jacket, which was applied during partial suspension. This, for a few weeks, caused an amelioration of the symptoms, but as they began to increase it was removed at the expiration of six weeks and another applied. The deformity was, however, not improved, as the kyphos was slightly larger than when the patient was encased in the plaster; and suspension, while it straightened the spine and caused the compensatory curves to disappear, did not seem to appreciably affect the knuckle itself.

At intervals the jackets were removed and renewed, as the indications for change arose, but they did not effect a cure of the disease. The effect of the jacket was, however, valuable in the sense that it was restrictive; that it afforded a degree of fixation which prevented the vertebral ostitis from proceeding so rapidly as to form abscess, and as it is thoroughly protective it should be used when better agents are not at hand.

But in the case of this child the parents became dissatisfied with the effects of the jacket four months ago and requested a change in the method of treatment. Upon placing him on a padded table in the position shown in Fig. 1, and allowing the head and shoulders to hang over the edge, the parts meanwhile being carefully supported while descending, the knuckle itself is seen to decrease perceptibly in size and prominence, and the compensatory curves are reduced. This effect is due to gravitation; the head and upper extremities, hanging in space on a lower plane than the kyphos, act as a downward traction force upon it, while the padded edge of the table, by opposing resistance to the descent of the rest of the body, exerts a force, in a directly opposite direction, upon the kyphos itself. The first causes an extension of the diseased portion, relieving local pressure and tending to stretch it into the normal curve of the spine, while the second intensifies the direct effect upon the kyphos in diminishing the deformity.

Fig. 1. Showing Position for Reduction of the Kyphos in Pott's Disease.

Authorities have so stoutly maintained that a knuckle, when once formed, should be allowed to proceed to complete consolidation, without attempting to mould the parts into better symmetry before the consolidation is effected, that it required considerable courage to first try the effects of this position, which would tend, to a certain extent, to disorganize the consolidation if not yet completed; and I was, therefore, very much pleased in my first case to note

that the patient was not only not rendered uncomfortable by the proceeding, that no bad effects were observable, but that a mitigation of the pain at once took place, very much the same as is often observed, and has been referred to by others as resulting from placing a child with Pott's disease on the knees, with the kyphos between them and drawing the knees gradually apart. In the patient before you the same result is obtained, both in regard to pain and disappearance of the compensatory curves; the kyphos, in addition, being also caused to decrease in size.

The attitude assumed by the authorities who urge that consolidation should take place without attempting to previously reduce the deformity, is very similar to that which was formerly maintained in regard to the hip—that ankylosis in the flexed and adducted position was the proper and best result attainable, and should be encouraged. At the present time, however, as we have aimed to show in the consideration of the hip cases treated in our clinic, we are not satisfied with ankylosis and deformity, but try to effect motion and absence of deformity, and gradually restore the joint to a useful condition. To a certain degree this applies to the spine.

The pathological progress of ostitis in the head of the femur and in the bodies of the vertebræ is very similar, and if in hip disease we can prevent the deformity from becoming permanent until the ostitis is arrested and the function of the joint restored, we might with reason claim that if the vertebræ can be prevented from being crushed together by the superincumbent weight while they are in the soft and disintegrated condition incident to the ostitis, until the disease is overcome and the process of repair completed, a cure could be effected without deformity. Proceeding still further, it is also reasonable to suppose that while the carious process is still active and consolidation not effected, although a kyphos may be present when the erect position is assumed, owing to the pressure of the superincumbent weight, if this kyphos can be *immediately* reduced, and the reduction maintained by a splint until the active stage of the ostitis has ceased and the process of repair is complete; or if the kyphos can be *gradually* reduced, day by day, by the use of an active force embodied in the splint, which is so constructed as to gradually overcome the deformity, and also to maintain such reduction independently of any position which the body can assume, and at the same time fix the entire spine in a position which tends to keep the bodies of the vertebræ from being pressed together by the superincumbent weight, it would follow as a natural result that a cure without deformity would ensue. Of course, force sufficient to break up consolidation which is actually complete, should never be employed. There is no need for me to point out the dangers or disastrous consequences of such a proceeding, but we are merely referring to the use of the gentle and efficient traction which can be exerted by the weight of the part above the seat of deformity, when exerted as already described.

In the case before you this plan of treatment was strictly followed, but to understand fully the principles upon which the treatment of this case was based, it will be necessary to discuss the subject more in detail.

In our last lecture we considered the various methods of treatment for this disease which were in vogue, and demonstrated the principles upon which they were founded. You will remember that when we considered the mechanical department of the treatment, we divided it into three classes:

1. Simple fixation,
2. Symmetrical traction, and
3. Backward traction,

because all the braces and splints for Pott's disease were based in their action upon one of these three principles.

Bearing in mind, as has been ably pointed out by Heather Bigg, that the spine is a column composed of many segments, which are in apposition when the superincumbent weight is borne upon it, but that this column becomes a chain when force is exerted, or a posture assumed, which tends to draw these segments apart, it will be seen that the attempt to produce fixation of such a flexible undulating column is attended with serious mechanical obstacles. You will remember, in describing the different forms of apparatus to produce simple fixation (and among these were the braces of Andrews, Washburne, Knight and others; the plaster zone of Shaffer, the wire cuirass of Bauer, and the firm jackets of Vance, Steele and others), they were described as attempting to enforce rest for the diseased portion, either by means of long metallic strips placed upon either side of the spine posteriorly and held there by girths and straps, or by enclosing the trunk in splints of leather, plaster-of-paris, felt, or other firm material, which are removable, and are usually laced tightly anteriorly; or a combination of the metallic frame and plaster-of-paris, as in the Shaffer brace. But in all the forms of apparatus which embody the principle of fixation, the material strength of the splint is opposed to the flexibility of the spinal column, and if the material were sufficiently strong it would tend to hold the spine firmly, and thus tend to limit the active stage of the ostitis and inaugurate the stage of repair.

The fixation appliances, however, do not attempt to remedy the deformity or produce extension of the diseased part, and their range of usefulness is, therefore, more limited than those of the other classes.

Now, *extension* of the spine may be of two forms: 1st, complete or symmetrical; or, 2d, partial; and both are utilized in the mechanical treatment.

Symmetrical extension of the spine is the form in which the bodies and articular surfaces are stretched by the traction force to the same extent, and differs from the *partial* extension produced by backward traction, in which only the bodies of the vertebræ are stretched, the pressure being transferred to the articular *facets*.

Symmetrical extension is produced by traction exerted either *horizontally* or *vertically*.

Upon the principle of *horizontal* traction are founded the various horizontal couches or frames in which the patient lies supinely, and, while the shoulders and head are embraced by one segment of the divided frame, and the pelvis and lower extremi-

ties by the other, traction force is exerted horizontally to separate the two attachments.

Upon the principle of *vertical* traction are founded linear traction braces, a notable example being that of Prof. Edmund Andrews, of Chicago, in which the extension is produced by a screw-ratchet; but very much more often a vertical suspension apparatus is employed.

This is best known in connection with the plaster-of-paris jacket advocated so warmly by Prof. Sayre, and which was exhibited to you in detail at our last clinic, when a jacket was applied.

This suspension apparatus lifts a patient's superincumbent weight from the diseased portion, and utilizes as a vertical traction agent all that portion of the body below the seat of disease. While thus suspended a plaster-of-paris bandage is rapidly and smoothly wound around the trunk and allowed to "set" firmly before the erect position is again assumed, with the object of holding the extension gained by the suspension. But this has been demonstrated by Heather Bigg, Shaffer, and others, to be impossible, and the opinion is expressed by them that the spine, being grasped by the plaster only throughout part of its extent, is not held so as to prevent its segments from pressing upon one another when the vertebral column resumes its normal function of carrying the weight of the head and upper extremities. The extension produced by the suspension is lost when the suspension ceases, unless a jury-mast is added to the jacket, in which case the extension produced by the suspension can be maintained by the apparatus. If, however, the jury-mast is not used, the plaster jacket becomes a fixation splint, but is more effective than the other splints of the fixation class, because it holds the spine in the improved curves produced by the suspension. There is, however, no possibility of adjustment or inspection of the parts, unless the jacket is removed and reapplied, and as there is no active force pressing forward upon the kyphos, there is no corresponding decrease in the actual deformity except such as may be gained at the time of each suspension, and, of course, a certain amount of this is lost, if not all, when the spinal chain again becomes a column by the cessation of the suspension and the resumption of the superincumbent weight, which tends to press the diseased portions together.

Symmetrical traction can also be exerted locally in the lower dorsal and lumbar regions, by dividing the jacket and connecting the segments by ratchets; but the use of such apparatus is unsatisfactory—for while vertical tension is exerted upon the soft parts between the segments, sufficient power cannot be employed to cause a state of extension between the vertebræ, without exciting too much pressure upon the skin and other soft structures—while at the same time no forward pressure is brought to bear upon the kyphos. The action of vertical traction upon a kyphos is well illustrated by a long strip of lead or other flexible material in which a knuckle is formed in the semblance of the deformity of Pott's disease. If linear traction is made to overcome this knuckle it will be seen that no power which can be exerted will take it out entirely; that although the strip becomes straight on either side of the angle, the angle itself does not disappear, and it will therefore be readily understood that while the curves of the spine are similarly improved by linear traction, and can be held in this improved position by the plaster jacket, or a divided jacket provided with linear ratchets, it is impossible for the deformity itself to be completely overcome, or even appreciably improved by them, or any form of apparatus founded upon the principle of symmetrical traction.

It, therefore, is apparent that although very little permanent improvement can be effected upon the deformity itself, unless it is very recent, yet the fixation in an improved position which they certainly secure, often arrests further progress of the disease and prevents increase of the deformity.

These divided jackets first came into use in 1878, the idea originating with myself, and being published by me at that time, and my apparatus was afterwards improved by Dr. Wyeth, of this city. Still later Dr. Roberts, also of this city, substituted elastic traction ratchets for the fixed traction ratchets of Dr. Wyeth and myself, with the idea of producing a constant linear elastic force, which should admit of motion, but not otherwise altering the principles involved.

Of more value, however, than symmetrical traction, in Pott's disease, is the *third* principle of mechanical treatment, which you will remember is the partial extension caused by *backward traction.*

This produces extension of the bodies of the vertebræ relieving them from pressure by curving the spine backward, so that the articular processes are caused to assume the superincumbent weight. The origin of this principle is generally ascribed to Dr. H. G. Davis, although the first effective instrument for utilizing the principle was devised by Dr. C. F. Taylor; and this was exhibited to you at the last lecture.

A later instrument for the same purpose was invented and used by Mr. Chance, of London, and has lately been advocated by E. Noble Smith, although the difference between the original brace of Dr. Davis and that of Mr. Chance is so slight as to be hardly appreciable, but the latter is extended upward so as to embrace a greater extent of the spine, which is a point of advantage. Dr. Taylor's brace differs from the others in being provided with a double screw hinge, placed just above and below the kyphos, so that the angle of the upper with the lower portion could be changed by the screws without removal of the brace from the back, while in the others this alteration must be effected by a wrench or the hand before the brace is applied; but the action of each of them on the spine is the same.

In all of these braces for backward traction, and in those for fixation and symmetrical traction beside, the *bending point* of the spine, or the point where the spine most readily gives way if the patient leans forward, is at the *seat* of *disease*, so that it requires great strength on the part of the apparatus to prevent this.

You have thus seen and had demonstrated to you

some of the typical forms of apparatus which are largely used by the profession for the treatment of spondylitis, and have seen several of them in successful operation, and we now proceed to the discussion and description of another and more recent form of spinal brace which embodies some valuable attributes not possessed by any of those enumerated.

It has already been stated to you that if the patient bent forward while wearing any of the braces or appliances described, the spine was more apt to give way at the seat of disease than at any other portion of its extent, owing to the yielding character of the diseased osseous structure, and that this tendency was only combated by the strength of the material employed in the splints. Now, this bending forward is one of the most important factors for increase of deformity and the retardation of cure, and to meet it successfully I have been obliged to use a lever or spring, which would bring a constant *forward* elastic power to bear directly and automatically upon the kyphos, and after considerable experience I am prepared to advocate a form of spring lever which meets this bending tendency successfully.

If the disease is in the dorsal region, a brace is constructed so as to embody a lever with a short and a long arm; the short arm extending from the site of the disease to the sacrum, and the long arm from the neck to the sacrum, the two being there connected by an adjustable clamp, and together forming a V shaped lever, which automatically acts to press forward the deformity and yet hold the spine firmly in the erect position.

The force is so graduated that if leaning forward is attempted, the shorter arms press firmly over the transverse processes adjacent to the kyphos, and exert a forward pressure which prevents the spine yielding at the seat of disease. In no other brace known is this accomplished, and it thereby secures a greater degree of fixation than either of the braces or splints described. If the lumbar region be involved, the short arm of the lever passes from the diseased part to the second dorsal vertebra, and the long arm from the sacrum to the same point; and they are there secured together by an adjustable clamp and connected to the front of the chest by straps and a T plate, the latter utilizing the infra-clavicular spaces and sternum as pressure points, thus preventing interference with or constriction of the soft parts. The braces formed upon this lever plan afford fixation in the erect position and exert forward pressure at the seat of disease, and no posture of the patient can influence or derange the action of the instrument, since it is compensatory.

The other systems of treatment described in the course of our lecture have, with a few exceptions, been before the profession for a sufficiently long period to have their merits generally understood, and have been employed with a varying degree of success; but, on the whole, the mechanical treatment of Pott's disease is considered to be in an unsatisfactory condition. There are two requisites which must enter into the consideration of this mechanical problem, if its treatment is to be attended with success, and these are 1st, arrest of the disease; and 2d, obliteration of the deformity.

Nature herself points out the direction in which force should be applied to relieve the diseased bodies and produce curative results.

Who among us has not noticed the position assumed by a patient with the disease in the stage of invasion? The body is held rigidly, the head and shoulders being thrown back as far as possible, and in stooping to pick up an object from the floor, this position is still maintained, the patient having every muscle exercised to hold the spine perfectly fixed and bent backward, the position being very much that of an equestrian "head and chest up, the shoulders held back, and the small of the loins well knit in." Were it possible for the patient to retain this position indefinitely, progress of the disease to the stage of deformity would be almost impossible, but it is a natural tendency in unguarded moments and for the purpose of resting the spine, to bend forward, and bending forward from any cause, removes the weight from the articular processes, and proportionately transfers it to the bodies of the vertebræ and their intervening cartilages. The muscles are unable to continue supporting the spine in its hyper erect position at all times, and consequently the patient bending forward occasionally, causes increased pressure upon the diseased cancellous bodies, hastening absorption of their structure and the formation of deformity.

Nature's indication for the treatment of Pott's disease is to put a splint on the back of the patient which will maintain this erect position, for since the tendency of the disease is to curve the affected portion of the spine forward, the center of this curve being anteriorly, our corrective force should be applied to produce exactly an opposite curve to the diseased one, the centre of such a corrective curve being posterior to the column. In other words, we must follow nature's lead and hold the spine erectly and slightly curved backward, the tendency of the disease being to curve it forward; and to thoroughly understand the principle upon which the new brace for this purpose is constructed, this patient having a well-defined knuckle is again laid on his back upon a table, the padded edges of which come to the apex of the deformity, the shoulders and head being allowed to fall downward. (See Fig. 1.)

You will observe as the patient's head and shoulders descend, that a partial, but physiological and true extension of the spine is effected, the traction force being all that portion of the patient above the seat of disease. This augmented by gravity, produces a backward curve of the spine, most marked at the seat of disease. There is also a tendency to obliterate the knuckle and this is only prevented from taking place entirely by such consolidation as has become perfected.

We have thus produced by this position the two effects we consider to be necessary to successful treatment and have placed the spine in curves the reverse of those it held before this posture was assumed.

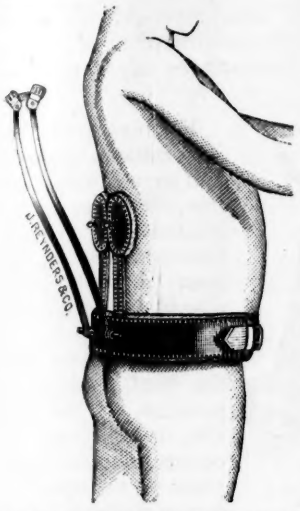

Fig. 2. Showing Lever Brace for lower dorsal region before the long arm is strapped to the body, the backward angle of the long arm being regulated by a clamp inferiorly.

If this position could be maintained indefinitely there would be rapid improvement in the disease; but as this is obviously impossible we attempt to embody in a brace the forces involved, it being for this purpose constructed in two parts. The "table" portion of the brace (and by this we mean that portion of the brace which is to produce upon the patient an effect identical with the table, as shown in Fig. 1) consists of a firm pelvic band from which strong padded strips pass up on either side of the median line to the seat of disease (see Fig. 2) and these form the short arm of the lever.

The "backward traction" portion of the brace consists of a back frame secured on the pelvic girth by a ratchet or clamp which allows it to be adjusted at any outward angle, and thus regulates the amount of forward pressure upon the kyphos.

The angle at which this back frame, or long arm of the lever, is thrown out from the body (see Fig. 2) determines whether the brace shall act as a lever or as a simple fixation brace, and the angle between the long and short arms determines the degree of power employed; and when the back frame is set outward at an angle with the short arm and is drawn down to the body and fastened firmly (as shown is Figs. 3 and 4) the short arms terminating in the pads press forward upon the transverse processes of the diseased vertebræ with a constant elastic force.

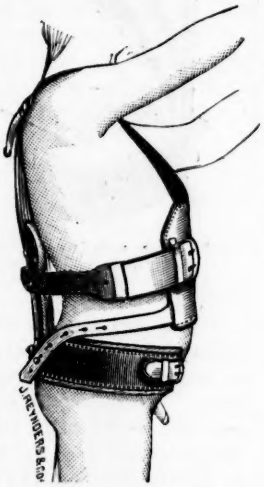

Fig. 3. The same, strapped to the body, the pads there exerting forward pressure at the seat of disease.

There are also other features of this brace which deserve mention. It will be observed that if the angle between the short and long arms of the lever is considerable when the long arm is fastened firmly to the body, the bending tendency forward of the upper part of the trunk does not cause the spine to give way at the seat of disease, for in proportion as the patient leans forward the short arms press forward upon the kyphos, and oppose a resistance to the bending at that point, so that by the brace a curative automatic effect is produced to keep the body erect, and at the same time prevent further deformity while tending to improve that which already exists. Also that the *spring* effect, produced by the setting off of the traction frame, and drawing it forward against the body which is thus held erectly when properly strapped, causes the brace to be held more tightly against the back and ensures a higher degree of fixation than any form of apparatus in use.

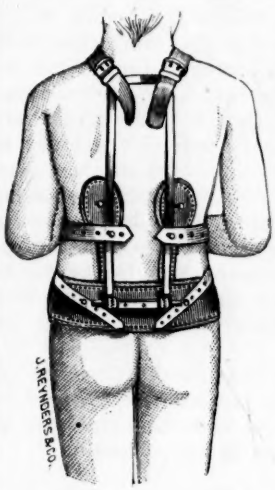

Fig. 4. The same (posterior view). The position of the kyphos, if shown, would be between the two pads.

In the beginning of the treatment it is well to have the traction frame set off at such an angle as to cause considerable pressure upon the transverse processes of the kyphos, and produce thorough extension of the diseased portion; but this angle may be lessened week by week as the case improves, until finally the traction frame lies directly upon the pads, and the brace becomes a mere fixation brace without any leverage whatever.

To further illustrate the action of this brace, if a bent lead strip is taken and one extremity held firmly by one hand, with the thumb pressed against the knuckle, it will be found that a force comparatively slight (when contrasted with that used in linear traction to produce not so perfect a result) with the other hand will serve to straighten the rod into its original position, knuckle and all. This is precisely what is accomplished by this brace. We grasp firmly the lower part of the spine as high as the seat of disease, and then, by force applied above, bend the spine

Fig. 5. Showing lever brace for middle dorsal region, with straps removed.

backward sufficiently to relieve the bodies of the vertebræ from pressure, and at the same time with the short arm of the lever, corresponding to the action of the thumb upon the lead strip, press forward upon the deformity, and thus, by the use of a very light frame-work, we can exert sufficient leverage to retain the spine in the erect position of the equestrian; and as this *backward* force is distributed along the entire dorsal and lumbar spine, while the *forward* pressure is exerted only along the spine from the seat of disease downward, decreasing from the kyphos to the sacrum, it will be found that no injurious pressure is exerted at any one point, as is the case in the Taylor or Chance braces.

For the middle dorsal region the short arms of the lever are longer than in the lower dorsal, so as to be opposite the seat of disease, and the brace may be attached by straps, as shown in Figs. 5 and 6.

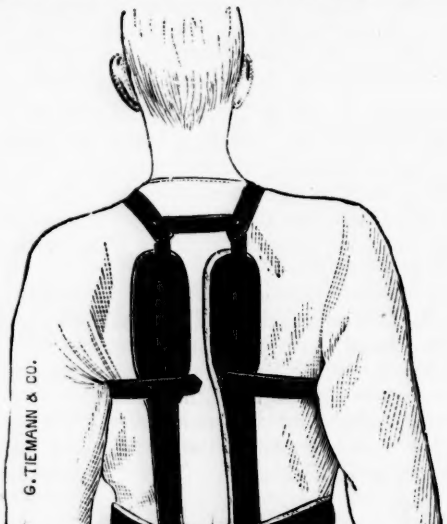

Fig. 6. The same (posterior view), after attachment to the body.

Fig. 7. Showing lever brace for upper dorsal region, with infra-clavicular pads instead of thoracic straps, for attachment to the body.

For the upper dorsal region the straps in front are dispensed with, the attachment of the long arm of the lever superiorly being effected, by padded strips, curved so as to pass under the axillæ and terminating in infra-clavicular pads, which are still better retained in place by straps over the shoulder (as shown in Fig. 7). As in the other braces, the short arms pass to the seat of disease, and this makes a very light and effective brace for this region, which is generally considered to be the most difficult to treat mechanically of any part of the spine.

Fig. 8. Same, with jury-mast attachment for cervical disease.

For the cervical region or disease of the first and second dorsal vertebræ, the brace just exhibited (Fig. 7) should have added to it a jury-mast (as in Fig. 8) or a head piece (as in Fig. 9), which is provided with facilities for fixing the head firmly in any position, by the insertion in the neck-strip connecting the head-piece to the rest of the brace of three clamps, which are so placed as to secure this object. The choice between the jury-mast and fixed head-piece in these cervical cases is usually one which the surgeon is called upon to decide for himself, and is to some extent regulated by the gravity of the case; the latter being more effective in caries which is proceeding very rapidly in its course.

Fig. 9. Same, with head-piece and clamps in neck strip, for fixation in any direction, instead of jury-mast.

When the disease is situated in the lumbar, in some cases in the lower dorsal region, and the short arms of the lever are too short to exert sufficient forward pressure upon the kyphos, the lever is reversed, the point of intersection of the long and short arms being placed in the dorsal region instead of over the sacrum. In such a brace the base plate is placed in the upper and middle dorsal regions and there secured to the body by appropriate straps. From this the short arm lever strips pass down on either side of the spine to the seat of disease where they terminate in pads, the whole being bound down to the body without constriction by a T plate over the sternum (see Fig. 12) and the long arm of the lever passes to the sacrum, there terminating in the pelvic girth (see Figs. 10 and 11).

When this brace is secured to the body, it forms a V shaped lever which produces extension of the

Fig. 10. Lever brace for lumbar region with long arm, set at an angle with short arm. The pelvic girth not yet fastened.

bodies of the vertebræ and tends to improve the deformity, while it maintains the spine firmly in the erect position, these being, as we have seen, the desiderata for successful treatment. To illustrate this reversal of the lever, so to obtain sufficient leverage to be of use in the lumbar region, a patient is laid on the back upon the padded table, and all that portion of the body *below* the seat of disease is allowed to hang over, just the reversal of the position already demonstrated. In this manner also we produce the extension of the spine by means of the backward traction of the lower extremity, and also produce the forward pressure upon the kyphos by the edge of the table. It is to sustain these effects when the erect position is assumed that we use the lever brace, and to adapt it to this portion of the spine, we reverse its construction as already detailed.

To resume the consideration of the patient before us: A brace was constructed for him upon this V lever plan, the apex of the V being placed in the middle dorsal region; and there firmly fixed by a chest-plate and straps so arranged as to secure the base plate to the back without impingement of the soft parts. The short arm of the lever passed downward and bifurcated just above the kyphos (see Fig. 11), and passing to either side terminated opposite its inferior boundary.—In this manner the direct forward pressure of the brace upon the diseased portion, was borne by the transverse processes without pressure upon the kyphos itself.

Fig. 11. Posterior view of same after pelvic girth is fastened. A rotary clamp is shown just below the antero-posterior clamp. This is used if any lateral rotation of the vertebræ coexists.

The long arm passed downward in the median line and terminated in the pelvic band, the clamp at the intersection of the two arms serving to regulate the amount of forward pressure at the seat of disease.

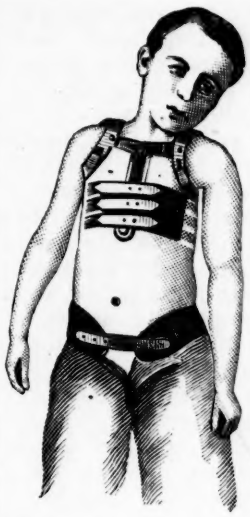

Fig. 12. The same anterior view, showing T plate and method of strapping.

The child is now before you with the brace in position, and as we remove the apparatus and inspect the patient's back, you will see but a slight kyphos, which does not materially increase as he bends forward. You will see, as he jumps from the floor at our request, that on alighting, there is no anxious or painful expression upon the face, as there would be if the concussion took place between the vertebræ in an active stage of the disease, and pressure can elicit no points of tenderness.

He looks rugged and vigorous, and his stepmother desires to know if he can go without the brace, as he seems to be cured, or, as she expresses it, "just like any other boy," but this we cannot yet advise.

We will, however, diminish the forward pressure at the kyphos by decreasing the V angle between the short and long lever, so that the brace will become only a fixation splint of the first class. For all practical purposes the disease and its consequent deformity are arrested, and it remains now only to be careful, to restrain the spine for a few months to ensure the improvement becoming permanent; care being taken at the same time, of course, to continue the constitutional measures.

There is one more point in respect to the mechanical treatment of these cases which is of prime importance, and that is, the right management.

Changes of position during sleep are very apt to cause spinal curves to be assumed which produce compression of the diseased vertebræ, and interfere with the process of repair, and therefore the use of some sort of spinal splint for the night is strongly advised, where the dorsal and lumbar braces already described cannot be tolerated in sleep; and sometimes they can not, although many become so habituated to them as not to have their sleep interfered with, especially if the sleeper lies upon the breast or side. A very effective splint may be prepared for night wear by applying a plaster-of-paris jacket during partial suspension.

Plaster-of-paris is mentioned first because it is so cheap and procurable, but felt or any other firm, rapidly hardening material will do as well, and this jacket is then to be divided anteriorly and provided with lacings in the ordinary manner. So far it does not differ from any other, but the additions which we are about to make to it, to some extent alter its character. A pair of thin pads should be placed on either side of the kyphos, posteriorly, and should be attached to the jacket at its edge by strips of metal, which are of a length, equal to the distance from the kyphos to edge of the jacket. (P. P. in Figure

Fig. 13. Showing plaster jacket with pads for forward pressure.

13.) These strips are bent so as to throw the pads inward, and thus become springs to press the transverse processes of the diseased vertebræ forward, when the jacket is applied and laced up, thus producing the effects of the lever brace during the night. The forward pressure of the springs may be graduated and controlled by piercing the jacket on either side of the kyphos, and through these passing cords (s. s. Fig. 13) to the pads, so that they may be pulled back against the rear of the jacket, and there secured.

This jacket, so modified, is an excellent spinal splint to be used during the day also, since it embodies the principles of the braces just described, and can be recommended for such cases as do not care to use a brace, and also for young children. In applying it, draw back the pads and secure them against the back of the jacket by the cords and then when the jacket is laced in front, after being placed on the body, the cords are to be loosened, and the pads will then press forward on either side of the kyphos, with a constant elastic force which depends for its intensity upon the strength and angle of the springs by which they are attached to the jacket.

(Fig. 13 shows such a *lever jacket* with the pads projecting inward and their spring strips attached to the jacket inferiorly, while Fig. 14 illustrates the same jacket in position.) It is not, however, necessary for the lever or spring effect, that the strip connecting the pads with the jacket should be attached to it inferiorly in all cases, for they may be also attached (although not so advantageously) superiorly, transversely or obliquely; or indeed, in any position so long as the pads are on either side of the kyphos and are forced to exert a forward pressure upon the diseased vertebræ. It is perfectly practical also to attach the pads to the back of the jacket opposite the transverse processes of the kyphos, by means of coiled spiral springs; but whatever form of lever or spring is used for its production it is impossible to bring the plaster jacket to its highest degree of effectiveness without the employment of forward pressure at the seat of disease. The jacket maintains the body in the erect position, while the pads tend to prevent increase of the deformity and to diminish whatever already exists, until the process of repair and consolidation is complete.

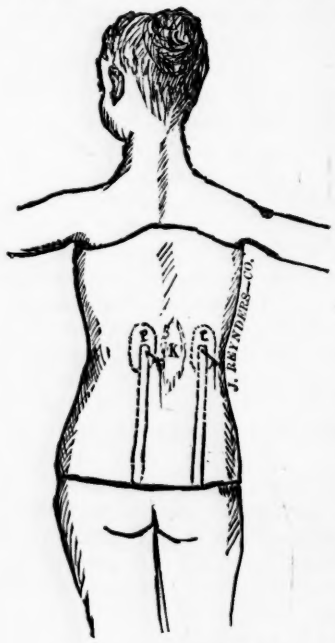

Fig. 14. The same applied.

SPONGE-GRAFTING.

BY EDWARD C. BRIGGS, M.D., BOSTON, MASS.

Read in Section of Oral and Dental Surgery, American Medical Association, May, 1884.

In 1879, Mr. D. J. Hamilton, lecturer on pathology, the School of Medicine, Edinburg, prepared a paper "On the Process of Healing," which appeared in the *Journal of Anatomy and Physiology*, Vol. xiii. He there made the statement and proved experimentally that in a granulating surface there were no new vessels formed, but that the superficial capillaries of the part were pushed upward, as granulating loops, by the action of the heart; the projection being permitted from the fact that the restraining influence of the skin had been removed.

Two years later, in the November number of the *Edinburgh Medical Journal*, Mr. Hamilton appears with a communication "On Sponge-grafting."

He there states that while getting the information for his former paper, he was led to believe that the process of vascularization, as seen on a granulating surface similar to that which occurs when a blood clot or a fibrinous exudation is replaced by a vascular cicatricial tissue, and that the blood clot or fibrinous lymph acts simply mechanically to give support to the projecting loops of capillaries. With this idea he searched around for something artificially to replace the blood clot, and hit upon sponge. This, he reasoned, was a porous tissue which would imitate the interstices of the fibrinous net-work of a blood clot. Being animal tissue it would, like cat-gut or the blood clot, be absorbed under favorable circumstances. I will not go into the details of his experiments, although they would be found very interesting. Suffice it to say that his experiments justified his theories.

He first experimented with the well known chronic ulcers of the leg. A piece of sponge, prepared as I shall describe later, was fitted to the sore, the edges of the sponge being tucked in under the indurated edges of the ulcer. Over this some simple antiseptic dressing with bandage.

Dressed on the following day the sponge was found partly filled with purulent discharge. On dressing the second day, there was *distinct putrefactive odor*, and the sponge was washed with carbolic solution. The sponge then appeared slightly red at the most shallow parts, and the edges of the wound reached farther inwards over the sponge.

The third day the sponge was beginning to adhere to the granulating surface, and at one point looked as though it were beginning to dissolve. The fifth day the thinnest parts of the sponge were growing

hard and seemed to be filling with organizing tissue; picked at these parts it bled freely, showing that the blood-vessels had already begun to climb up through its pores.

The growth was slow, but at the end of three months only a small piece of the sponge was to be seen. The sponge, when originally fitted to the part, was five inches in diameter.

One month later, four months from beginning, Mr. Hamilton showed the patient to the Medico-Chirurgical Society, with no traces of the sponge to be seen, and a healthy granulating surface of only an inch and a half diameter.

This, the first experiment, was satisfactory in every way, proving the theory correct, and showing that sponge would act even better than blood clot; for while a blood clot would have been destroyed by the putrescent condition of the wound, the more resistant sponge did not seem to be at all affected.

Since Mr. Hamilton's paper, surgeons all over the world have been experimenting with sponge-grafting, and many successful cases have been reported from time to time. Seeing these reports, the idea suggested itself to me that morbid conditions in the mouth, associated with loss of the soft tissues, might also be benefited by the use of sponge.

In giving my experiments I will state just what I did, and not what I should now do after the experience I have had. It happened that a patient of mine, Mr. N. G. B., had been annoyed for three years by a deep depression over the roots of the right superior, first bicuspid, the result of a severe periostitis. The chief cause of annoyance was that the food was collected there and the pus retained. It was not a simple fistula, but a cavity ½ inch deep and $^3/_{16}$ of an inch in diameter. I had tried in various ways to restore the lost tissue, or at least to narrow the opening down to a small fistula. I had made stimulating applications, had created a fresh blood clot to fill the cavity, hoping it might organize, but all to no purpose; in fact, the cavity tended to grow larger, until I thought of trying sponge.

January 26, 1884, I fitted to the cavity a piece of sponge, previously prepared according to Formula number one of Dr. Edward Borck, of St. Louis. The formula is as follows: Take a fine sponge, soak it for three or four days in a 20 per cent solution of hydrochloric acid; squeeze dry, soak for ten days in a solution of iodoform in ether (℥i—℥i); evaporate ether, and keep in an air-tight vessel.

Having fitted a piece of sponge thus prepared I dismissed the patient.

The next day I saw him, and not expecting any success, I attempted to pull out the sponge. To my surprise it resisted my efforts. I persisted and pulled it out, disclosing a fresh granulating surface which bleed freely.

I packed with fresh sponge. The next day I again pulled out the sponge, meeting with the same resistance. The appearance was the same as the day before excepting that the space had partially filled up with fresh granulations.

This treatment was pursued for two months, after the first week Mr. B. coming only twice a week. The sponge would apparently become attached for a day or two, and then would work out, necessitating the application of fresh sponge. I never again got so good an adhesion as after the first piece was put in, and at no time did there seem to be evidence that the sponge would organize; but, either as a stimulant or a support to the granulations, it accomplished what I had failed to do with other means.

The patient now presents simply a small opening admitting a probe about three-sixteenths of an inch. He is not now annoyed by the collection of food or the retention of pus.

As I have said, I had previously tried the blood-clot without success, for, owing to the putrescent condition of the sore, it would always come away in a short time without any change in the cavity being noticeable. With the sponge it was different. The discharge went on through the sponge, the sponge remaining in position and giving support to the granulations which were not in direct line of the discharge.

Case II. About the 1st of April, encouraged by the success of my first experiment, I undertook another case.

This patient, Mr. J. B., relates that three years ago, after a separation had been made between his right superior first and second molars, he began to have trouble in the gum. About two years ago, while in Honolulu, the annoyance was so great that he consulted a dentist, who lanced deeply down between the teeth. He forced the lancet nearly at the roof of the mouth, and drawing it through between the teeth, to the cheek. Where this cut healed the parts contracted, making the trouble worse. It did not heal, however, between the teeth, and when I saw the patient, a year ago, there was a deep depression between the teeth. The gum bled freely on being touched. The annoyance was great, amounting sometimes to severe pain. I suggested contouring the teeth to protect the gum, but as the teeth were both very sensitive and the operation would necessitate a great deal of cutting, the patient declined.

When, the 1st of April, in response to a note from me, I examined him with a view to trying sponge, I found the trouble worse than ever, the hollow between the teeth at one part extending two-thirds up the roots of the teeth.

I began the treatment on the 7th of April. After wiping the surface of the gum with deliquesced crystals of carbolic acid, and scraping off the slough, I had a fresh, healthy surface to act upon.

I had prepared for this case a sponge in the following manner: I first cleaned it of its calcareous salts by washing in dilute aqua regia, then allowed it to remain for twenty-four hours in a dilute solution of tincture of iodine, squeezed it dry and put it in a saturated aqueous solution of boracic acid, ready for use.

To protect the gum and prevent the dislodgment of the sponge, I had previously prepared a piece of hard rubber made to arch over the opening between the teeth, resting upon the gum on either side. Having fitted a piece of sponge to the exposed surface, I painted the gum and the inside of the rubber

cap with a solution of resin, and put the cap in position.

In three days I removed the cap, syringed the parts, without removing the sponge, with a 1–200 solution of carbolic acid, and replaced the plate as before.

Three days later I again took off the plate, and this time detached the sponge. It was only attached on one side, but at that point the gum had already grown down a little. On dressing it this time, I returned to the use of sponge prepared as for the first case, having an idea that it worked better. I have seen the patient twice a week up to the present time. The case is progressing very favorably and the cavity is filling up as rapidly as I could wish.

With the present experience I should now, in treating such cases, first be sure that the parts were thoroughly cleaned. I should have the sponge shaped as accurately as possible, not forgetting to allow for the swelling; for a day or two I should endeavor to keep some pressure upon the sponge to aid in its attachment. After that time, I should disturb the sponge as little as possible, simply washing away the discharge with some antiseptic solution. I should wait with patience, not expecting to see great progress in a very short time, and have more faith to believe that if let alone, the sponge would really organize, as in Mr. Hamilton's cases.

In regard to its application, I think it can be applied not only to such cases as I have described, but to all cases where it is desired to reproduce soft tissues. I shall try it, and expect success, in the aggravated cases of the so-called "Riggs' Disease," where there is loss of tissue about the roots or teeth.

DISCUSSION ON DR. BRIGGS' PAPER.

Dr. Williams.—It has been my privilege to see the cases upon which Dr. Briggs operated by sponge-grafting, and have noted the marked improvement. It is certainly new in its application to the conditions mentioned in the paper, and think its usefulness in this direction will be very great.

Dr. Ailport.—I desire to express my thanks to Dr. Briggs for the paper he has read, and I intend to try the sponge-grafting on the first case that presents, in which there is reasonable hope of success.

Dr. Briggs.—I am of the opinion that the sponge-grafting may be successfully used in closing certain cases of cleft palate.

OVERDRAFT OF VITAL OR NERVE POWER AS AFFECTING GENERAL AND SPECIAL HEALTH.

BY JACOB L. WILLIAMS, M.D., BOSTON, MASS.

Read in Section of Oral and Dental Surgery of American Medical Association, May, 1884.

The relation of reserve strength or nerve power to the general health, and to the harmonious working of all the functions and faculties, every practitioner has constant occasion to observe. To him it is a great source of reliance for continued health, and for permanent remedy of abnormal conditions of organs.

The abnormal conditions of different parts of the body have given rise to the various specialties in practice, all, when properly considered, having their relations to the general controlling laws and forces of the system. The question may be asked whether, in some departments of special practice, these general laws may not sometimes be too little thought of in all-absorbing attention to local disease?

The relations referred to, it may be proper for the various specialties to elaborate and demonstrate each for itself. My present purpose is to make a few suggestions in regard to the influence of reserve nerve force, and the want of it, on some conditions of the oral cavity. I say *reserve* nerve strength, for that is what must be drawn on in any contest between health and disease.

It is not by a brilliant display of activity, or temporary fortification with artificial tonics alone, that a lasting victory will be gained for health against persistent disease, unless there be within call additional supplies of sustaining and restorative vitality, to meet readily any demands of the case.

There is no doubt that a large proportion of people in the artificially active life attending our civilization are maintaining an appearance of fair health while using up all the nerve strength they have every day, leaving practically no reserve, and liable to succumb, as they are constantly doing, at any extra emergency or strain.

Indeed, in observing the dental and oral health of individuals, how constantly do we see *persistent* abnormal conditions, which I think can only be accounted for from this fact. Such overdraft may be from a constitutional disposition to activity that might be called a nervous diathesis, or from obligatory or voluntary over effort for an object, or from some diseases or conditions of the system drawing greatly on the vital force.

Take the very common case of the business or professional man who, from overwork, becomes dyspeptic. He is advised to "be careful of his diet," and so forth, which advice he follows punctiliously, still, however, keeping up his usual habits of work, and the dyspepsia is not cured. The digestive secretions are not in condition for the healthy and comfortable performance of their office. Then rest is directed, and if he takes it in the right way, he becomes better.

Now, the idea is not only rational but it seems capable of proof, that not the gastric fluids only, but the secretions of other parts of the digestive system are abnormally affected by the same causes.

In such a case as referred to, a greater or less tendency to an unhealthy condition of the oral secretions may be found, which also holding in solution fermentive material, must, as a chemical necessity, sooner or later cause damage to the dental organs.

It may be observed that this abnormal state of the oral fluids most commonly follows a continuous rather than temporary over-strain, though I have seen cases of very rapid results from great nerve exhaustion.

I would suggest that the condition of the teeth in

regard to the degree of their tendency to decay might be one aid, if only as confirmatory, in diagnosis of obscure nervous affections.

This relation of cause and effect I have repeatedly seen strikingly illustrated in young persons, who are more readily susceptible in this respect than adults; so that I now commonly expect to find more and greater activity of disease in the mouths of young scholars in the spring and early summer, after a winter season of unremitting application to study and exciting amusements, than in the autumn, on their return from a summer's vacation of leisure and rest. There may be no external appearance of variation from standard health, but the greater or less softening of the teeth is very sure to be seen.

A case in point, which only represents many actual ones:

W. M., a lad of 15 years, Sept. 25th, recently returned in good health from a summer vacation at a quiet seashore place; mouth healthy, teeth sound on approximal surfaces and in the sulci. Was advised to come again in four or five months. He did not appear till May 18th, following. Had been busy and did not like to take the time. Said he sometimes felt sensations in eating fruit or sweets. On examination I found the teeth, though of normal density looking whiter than last autumn; also found cavities between the superior bicuspids and first molars on both sides, and several cavities in sulci of molars, all of the chalky character indicating rapid acid action. To the inquiry, if he had been busy the past winter, he replied that he had been studying very hard to keep a high rank. His teeth told the story without the aid of his tongue. The same conditions of life were repeated the following summer and the next winter with corresponding results.

Another case, of an adult, whose oral health had been exceptional up to forty years of age, being so situated that his ordinary business, requiring no special anxiety, was but an amusement which did not occupy his time very closely; when times changed, and complications and competitions came to engross his constant and sometimes anxious attention.

In about a year the teeth began to decay quite rapidly, he complaining sometimes of feeling "nervous," and this condition of oral health has continued, together with his close application to business, for the past eight years. The cause and effect seem strikingly evident.

A similar condition of the mouth, as well known, very commonly exists during the state of pregnacy, and is often seen when that state might otherwise be called normal. The gynæcologist might frequently notice it.

A remarkable case occurred under my observation, of a lady of about 44 years, suffering from an ovarian tumor. For more than a year she came regularly, at intervals of four or five weeks for observation of the teeth, and there was invariably some new attack of white decay found on them.

There is also another pathological condition in the mouth which I have seen to follow or accompany this exhaustion of vital force, viz: neuralgic pains at the roots of the teeth, particularly at the roots of the inferior central incisors; though sometimes the pain extends along the line of either jaw, yet with all the teeth having the appearance of health externally, and under the usual tests.

When this peculiar neuralgic sensation is complained of, I find on inquiry that there is, or has been, a conscious overdraft of vital force from extraordinary care or anxiety, or excessive effort of some kind. Enough cases of this sort to fill another paper might be related, but they would occupy time needlessly, and I will mention but one:

Mrs. D., about 38 years of age, usually healthy, dental soundness of very good average, after absence of six or eight months called, complaining of thrilling sensations at roots of inferior central incisors; also in upper incisors, and along the line of upper jaw. No calculus was found on the inferior incisors, and very little on any of the teeth; no indication of alveolar inflammation; was much exhausted by the little scaling needed. She had been anxiously devoted to a sick mother, together with her family supervision, for the past four months.

In this relation I have noticed that where the disturbing cause is continuous for some time, the neuralgic condition at the dental roots is apt to be followed by some degree of loosening or unsteadiness of the teeth, even when not accompanied by any accumulation of calculus at the necks, or any evidence of alveolar necrosis. That this condition is sometimes mistaken for pyorrhœa alveolaris I have no doubt. In such case the heroic treatment sometimes adopted for the latter would be but an aggravation of the malady.

The suggestion may properly be made that, although the specialty of oristry has the advantages derived from earnest and accurate chemical and histological investigations, and from increased facilities for acquiring deftness in operative skill, there is yet much room for a more thorough study of the constitutional relations of this department of practice.

THE REMOVAL OF STAINS FROM THE TEETH CAUSED BY THE ADMINISTRATION OF MEDICINAL AGENTS AND THE BLEACHING OF PULPLESS TEETH.

BY A. W. HARLAN, M.D., CHICAGO, ILL.

Read in the Section of Oral and Dental Surgery of the American Medical Association, May, 1884.

GENTLEMEN:—A large number of remedial agents administered by physicians temporarily stain the teeth, but in looking over the list I find there are but few which may be said to permanently stain them. The mineral acids—nitric, sulphuric, hydrochloric, and other acids of this nature, if used for any length of time, may discolor the teeth and likewise have a deleterious effect on them; yet it cannot be said that such agents stain the teeth so that any particular method should be desired for restoring their natural appearance. The vegetable series may likewise be

dismissed. The tannates and astringents generally do not permanently stain the teeth. The muriated tincture of iron, and in fact all of the ferrum preparations, with the single exception of ferrum dialystum, do stain the teeth; yet it is comparatively easy to remove such stain, by the use of dentifrices and tooth pastes, when of recent occurrence. Occasionally it may be necessary to polish the teeth with wooden or leather points charged with finely pulverized emery or levigated pumice; following these, powdered Arkansas stone and precipitated chalk, incorporated with a thick solution of white castile soap, should be used. The stains produced by hydrastis, aloes, tobacco, rhubarb, ink, infusion of saffron, pinus canadensis, carmine, catechu, hydriodic acid, tincture of iodine, and kindred agents, are of temporary duration in nearly all cases. Not so with tobacco, when the enamel has been fractured, or the masticating surfaces of teeth have been deprived of their enamel by wear. In such cases there is no remedy for the stain, when it disfigures, except to cap the teeth with gold. This last condition it is seldom found necessary to treat, as in such cases generally it is only imperative when the ends of the teeth have become sensitive to thermal change. Staining of the teeth as a result of age, it is not the province of this paper to treat. The single substance which I have found to stain the teeth permanently, is nitrate of silver. Solutions are frequently used in the mouth and throat of too great strength. Many times the powdered nitrate is used to dust diseased mucous membranes, and the teeth then suffer. Occasionally, dental surgeons use the solid stick on the walls of sensitive teeth, and also to arrest incipient caries. When carelessly used it may stain other teeth than those operated upon. These cases are the ones we are called upon to treat. It matters not how the stains are acquired, they must be removed, and no amount of polishing, without injury to the external surfaces of the teeth, will remove such stains. The agents which may be used for removing such stains are not numerous. Cyanide of potassium, iodide of potassium, tincture of iodine, and the liq. amm. fortior are all recommended. There are other substances which may be used to remove fresh stains, notably solution of chloride of sodium, if used immediately. I recommend as the neatest, safest, and most certain method, the adjustment of the rubber dam; then dry the teeth, and paint three or four of them with the compound tincture of iodine, allowing it to dry; then moisten the surfaces of the teeth with the stronger liquor ammonia for two or three minutes, and wash the surfaces with peroxide of hydrogen. The stains will have disappeared in consequence of the chemical change having taken place resulting in the formation of iodide of silver and nitrate of ammonia. The teeth should then be polished in the usual manner.

BLEACHING TEETH.

It is not intended that a history of the various methods of bleaching teeth in use should be presented for consideration at this time; but it is necessary to remark that most of them are faulty and very few useful in all cases. In order to bleach a pulpless tooth the operator must first fill the root at least one-third its length. All decay should be removed and the fragments of the pulp in the fine angles of the outline of the living pulp should also be removed. Discolored dentine if hard need not be cut away. With the rubber dam adjusted over the adjacent teeth, including the one to be operated upon, the cavity is thoroughly washed with $H_2 O_2$ repeatedly and then carefully dried by using the hot blast from a powerful bulb syringe. A small quantity of chloride of alumina is placed within the cavity, and it is moistened with peroxide of hydrogen and allowed to remain five minutes. The deliquesced $Al_2 Cl_6$ is carefully washed out of the cavity with a clear solution of sodæ biboras Na. 2, $B_4 O_7$-10 $H_2 O$, and the cavity thoroughly dessicated. In the vast majority of cases the tooth will have returned to its normal color. The cause of the change in color is owing to the complete oxidation of the infiltrate into the tubules and the destruction of the staining of the contents of the tubules. The tooth should not be bathed in creosote, carbolic acid, alcohol, or any other substance capable of coagulating albumen. Where the operator has reason to suspect that any such agent has been introduced into the cavity, it should first be washed with the clear solution of sodæ biboras, and then followed by the above-mentioned method. The rapid liberation of chlorine from $Al_2 Cl_6$ in the presence of $H_2 O_2$, resulting in the formation of H-Cl and $H_2 O$, leaving unsatisfied O and Cl accounts for the speedy destruction of the coloring matters within the pulpless tooth. In order to maintain the color an oxy-chloride of suitable color should be used to fill the remainder of the pulp canal, and as large a portion of the unfilled cavity as judgment will indicate; thirty to fifty minutes should be given for the hardening of the oxy-chloride. The cavity should be filled with gold immediately. It is not wise to allow saliva or other liquids to come in contact with the oxy-chloride after it is introduced into the tooth. It jeopardizes the permanency of every case when oxy-chloride becomes moist, on account of the speedy absorption of fluids by the freshly hardened filling.

DISCUSSIONS ON DR. HARLAN'S PAPER.

Dr. Friedrichs.—I used to attempt to bleach teeth years ago, but have not made such an effort in the last ten years. If our services are engaged in season, there should be no occasion for bleaching, and I very seldom see a case now that requires such service.

Dr. Harlan.—I have tried all the known remedies for discolored teeth, and think from such experience, that peroxide of hydrogen, combined with chloride of aluminium, are the most successful agents. It is important, however, that the drugs be good. I think Tromsdorff's peroxide of hydrogen and Merck's chloride of aluminium are the most reliable.

Dr. Friedrichs.—In reference to the stains of nitrate of silver (Ag. Nt_3), I prefer to remove them by mechanical means, rather than make the attempt by the use of chemicals. A stick and pulverized pumice-stone are all that is needed to effectually remove such stains.

Dr. Brophy.—I would ask Dr. Friedrichs if he does not find, in some cases, that the stains have penetrated too deeply to be removed by such means?

Dr. Friedrichs.—I have used this means to a very great extent, and am entirely satisfied with it. I have had a great many patients suffering from "erosion," and find that Ag. Nt_3 stains do not penetrate beyond the control of such mechanical means as I have mentioned.

MEDICAL PROGRESS.

MEDICINE.

THE RELATION BETWEEN THE INGESTION OF FOOD AND ALBUMINURIA.—Dr. Stanley M. Rendall is publishing an article in the *Edinburgh Medical Journal* entitled "Study of a Form of Albuminuria," in the second chapter of which he discusses the relation between the ingestion of food and albuminuria. The effect of an albuminous alimentation on the quantity of albumen present in the urine of albuminurics has been noticed for a long time now as increasing the amount of this principle present after meals. But all these reports had reference to the existence of augmentation of the quantity of albumen after nitrogenous food, in individuals who were already suffering from persistent albuminuria. But within the last year or two attention has been drawn by various writers to the existence of an intermittent form of albuminuria in men otherwise apparently healthy. In many cases it being discovered merely by acident, owing to a habit of always examining the urine of every patient that might present himself from any cause, however slight, and in many cases its presence being as much a cause of surprise to the medical man as to the patient, until, as in the case of Sir William Gull, its frequent presence in a certain class of cases ceases to excite either astonishment or alarm, and causes the question to be asked, "What worth were mere statistics of albuminuria since it occurred in young men and growing boys almost as frequently as spermatorrhœa?"

The first cases given in detail are those by W. Moxon in the Guy's Hospital Reports, 1878, in a paper entitled "On Chronic Intermittent Albuminuria;" and a few isolated and undetailed facts have been reported from time to time in the different medical journals. Thus, Sir Andrew Clark says: "I knew a case in which albumen occurred in the urine daily for several months, but it was only present in the urine passed after breakfast, and was never, to the time of its departure, present at any other time." "Albumen in small quantities, and unaccompanied by casts, may be present in the urine daily for three years, and at last permanently disappear. This occurred in a case under my observation. The health, which had previously been bad, rapidly improved after the disappearance of the albumen from the urine, and became ultimately very good." Dr. Smith, *New York Medical Journal*, 1880, mentions the case of a medical friend who could produce in his own person albuminuria, lasting eight or ten hours, by drinking a pint of milk. Claude Bernard, after having eaten several hard-boiled eggs, found his urine albuminous. M. Marcacci, of Florence, in the *Imparziale*, 1878, after numerous examinations, came to the following conclusions:

1. The constant absence of albumen in the urine of the night.
2. The very rare absence of albumen in the urine of the day, and then only at the hours furthest removed from the repasts.
3. When the albumen was absent it was easy to make it reappear, on indulging in a moderately active exercise sufficient to increase, notably, the number of the pulse.
4. The absence of all varieties of tube-casts, epithelial or others.

Dr. Rendall quotes seven of Moxon's cases, which show that albumen was not found in the urina sanguinis, that is in that excreted during the night; but was in the urina cibi, that is, in the urine excreted during the day. Moxon is inclined to believe that this albuminuria is caused by an irritation of the kidneys by morbid matters contained in the urine, such as the oxalates. He thinks also that there may be a connection between the appearance of albumen in the urine and the epoch at which the sexual functions complete their development, when their tendencies are not completely under normal control. In one of these cases, at least, there was no connection between the vertical position and the albuminuria, for there was no albumen passed either on rising or immediately before going to bed. This invalidates the view that it is due to the increase in the weight of the blood column in the vertical position.

Dr. R. Saundby in some notes on the "Diagnostic Value of Albuminuria" found in 145 out-door male patients of the Birmingham General Hospital, taken seriatim, 105 contained albumen, or 72.4 per cent of twenty-eight cases under 30 years of age, who were suffering from debility and dyspepsia, and in whom no definite pathological changes could be discovered, ten, or more than half, had albumen in their urine. In the other cases, varying from 30 up to 80 years, only one man, who had no definite pathological changes, was found to have albuminous urine. In speaking of some of these patients Dr. Saundby says: "The microscopical examination has revealed usually nothing. In one or two cases there were a a few oxalates, and in one or two a few hyaline casts, but the latter especially were quite exceptional. As for the statement that spermatorrhœa might account for this symptom, it must be remembered that the seminal and prostatic fluids do not contain any albuminous body coagulable by heat.

Dr. Rendall continues his article by giving in detail three cases of his own, from which may be given the following as the symptoms of post-cibal albuminuria: No definite complaint, a general malaise existing for months, perhaps; irritability of temper, moodiness, desire for isolation, apathy, fatigue without apparent cause, unrefreshing sleep, failure of appetite and of memory, haggard and drawn appearance, pale and anæmic complexion, no great loss of

flesh, no apparent derangement of the organs. In fact, the symptoms as a whole resemble those of oxaluria, there being nothing to draw attention to the urinary system. When it is examined, however, the intermittent presence of albumen is made out. It is always present in well-marked cases after food, its quantity varying with the amount and quality of the aliments taken. On allowing the urine to stand and cool a cloud of mucus is usually deposited, on the top of which the naked eye can frequently make out a thick, silvery line, showing the existence of oxalate of lime crystals; but if the unaided eye fails, the microscope can always detect the presence of this salt. No tube-casts, of any kind, can be found in any quantity; but occasionally, after careful searching, one or two crystalline cylinders can be discovered, looking rather like threads of mucus. The reaction is acid, sometimes very much so, and the specific gravity normal. An important negative point, besides the absence of epithelial casts, is the absence of albumen in the water first passed in the morning on rising from bed, and also that passed at any considerable lapse of time after meals if the bladder has been previously emptied of the urine of digestion. Transpiration, far from being diminished, as is the case in true Bright's disease, is increased in some of the cases. In one of those cited, not only exercise but any unusual excitement produced a sensible diaphoresis. Whether all the cases quoted in this paper from different sources can be classed under the heading of post-cibal albuminuria without bringing in another factor than the ingestion of food, is, from the insufficiency of the observations, doubtful. But the majority bear a close relation, and in Dr. Rendall's cases an exclusive relation, to digestion. The explanations given in some of the cases of an "atony of vessels and nerves"; the presence of morbid matters in the urine, such as oxalate of lime, causing an active irritation of the kidneys; a disturbance of the sexual system reflecting a disturbance to the urinary system; or that the albumen is due to the presence of semen, or to differences in the renal circulation produced by the horizontal or vertical position of the body, are all deemed insufficient to explain at least the majority of the cases.

MATERIA MEDICA AND THERAPEUTICS.

ANÆSTHETICS AND THEIR ADMINISTRATION.—Two very interesting and practical papers on this subject have been read recently before the Medical Society of London by Drs. Woodhouse Braine and Geo. Eastes, respectively, and are given in full in the *British Medical Journal*. Dr. Braine considers anæsthetics when they produce a fatal result as practically divided into two classes: 1. Those which produce death in the double manner, through the circulation as well as through the respiration. In this class must be included chloroform, bichloride of methyline, dichloride of ethidene, bromide of ethyl, ethylic methylic ether, and many others of the chlorine series. 2. Nitrous oxide and ether; in which the fatal result, when it does occur, is due to cessation of the respiration only, the heart's action continuing for some time after the respiration has entirely ceased. The three factors one must consider to choose an anæsthetic judiciously, are: 1. The nature of the operation; 2, the amount of insensibility necessary; and 3, the length of time required. The sickness following ether is accompanied, and often caused by, large quantities of flatus; and as it takes place generally very suddenly and forcibly, it is always advisable to stand behind the patient when holding the basin. Chloroform sickness, on the other hand, is preceded by much more faintness and nausea, and takes place more quietly. Hiccough following an anæsthetic is most quickly stopped by the administration of a very small cup of green tea, without milk or sugar; and, should this prove ineffectual, by small doses of dilute hydrocyanic acid. In giving nitrous oxide the room must be kept as quiet as possible during its administration, and no communication should be made to another person, even in a whisper, which it is desirable that a patient should not hear, as at one particular time during its administration the sense of hearing is rendered morbidly acute, all sound being greatly magnified; and this caution holds good also during the recovery of the patient, as the sense of hearing is recovered before that of pain. To get the full effect of nitrous oxide, it must be given pure, all air being rigidly excluded; and if the patient wear a beard, it had better be wetted, or, what is more effective, have a little soap rubbed on it. Deep snoring and an insensitive conjunctiva are good signs of insensibility, but the most trustworthy one of all is subsultus tendinum of the fingers. Pregnant women, even as far advanced as eight months, take nitrous oxide well. Children with chorea, and people who have had hemiplegia, take the gas well. In phthisical patients, if the mischief be extensive, some caution is necessary, as in these cases the anæsthesia deepens after the removal of the face-piece. It is perfectly safe to administer this agent to epileptic patients.

An anæsthetist is often asked by the surgeon, what time in the day will suit him best? "As early in the morning as you can manage it, 8 or 8:30, if possible;" for patients at that hour require less of the anæsthetic to produce insensibility, and their stomachs being naturally empty, they do not experience any of the faintness that is produced by missing a meal. The nervous system of the patient, at this hour of the day, is in its best condition; for there has not been time, since the patient awoke, for the distressing effects of fear and anxiety to have made themselves felt. The patient should not be allowed to become faint from want of food. Should the operation take place before 9:30 A. M. no food of any kind should be given; but if it be the custom of the patient to take a cup of tea or cocoa about 7, this may be allowed; for, having become a habit, it will be missed, and faintness be produced by its omission. If the operation be between 11:30 and 2 let a light breakfast be taken about 8, if that be the patient's regular hour; but if no meal be usually taken till 9:30 or 10 o'clock, then let breakfast be omitted altogether, and a small cup of soup or beef tea be given three hours before the time of operating.

The organs of respiration and circulation should always be examined prior to the administration, 1st, to give confidence to the patient and thereby produce a certain increase of cardiac power and a general quieting of the nervous system and, 2d, to enable one to ascertain whether it is advisable to administer the anæsthetic rapidly or not, from the condition of the nervous system. The eyes had better be kept open, to reassure the patient by a friendly nod or kind look and give him confidence. Artificial teeth, particularly when attached to a small plate, should be removed. It is inadvisable to remove a complete upper and lower set, as then the gums come so close together that the flabby lips and cheeks act as a valve and prevent the ingress of air. A quid of tobacco may prove troublesome if not looked after. Previously to applying the face-piece to the patient's face the anæsthetist should always apply it to his own, to see that everything is in good working order, and that the patient can breathe through it with comfort. Dr. Braine did this in one instance where a fine spray of bichloride of methylene nearly choked him and made his face smart for a considerable time. Within the last two or three months a fatal case has occurred in a London hospital from an ounce of the anæsthetic being injected through the nasal tubes.

With a relaxed uvula the patient must be made to sit quite upright, at the same time bending his head forward. The uvula in this position swings freely backward and forward with the breathing, but not touching the pharynx it causes no inconvenience. Where perfect quiet is required, and mucus about the fauces renders the respiration jerky, by rubbing the forefinger over the back of the tongue and pillars of the fauces the patient is induced to swallow, and thus get rid of the mucus. Dr. Braine's usual practice is to produce complete insensibility by means of nitrous oxide, and then to quickly change the face-piece for the Ormsby or Dublin inhaler(?), so that the irritation produced by the ether lasts but a few seconds, and the patient sinks to sleep without any struggling whatever. The cold produced by the rapid evaporation of the ether is often so great that the sponge becomes frozen and gives off but a small quantity of vapor. This is best prevented by warming the inhaler before using it, by placing it in a napkin or large sponge wrung out in hot water. The most comfortable position for the patient is lying on the side, with one hand and forearm under the pillow, the shoulders being slightly raised and the neck a little bent, so that the saliva, which is always secreted in large quantities, may run from the lower corner of the mouth and not be swallowed. This salivary secretion readily takes up ether vapor, and if swallowed is sure to produce vomiting. The easiest way to remedy any faintness coming on after the patient's return to bed, is to raise the lower end of the bedstead, supporting it on the end of a sofa or chair, thus making the head and shoulders the lowest part. Two minutes and forty-five seconds is rather over than under the average time it should take to produce complete insensibility.

Occasionally a patient breathes very slowly, and holds his breath, apparently for a long time; but if by breathing synchronously with him no discomfort is felt, there is no need for anxiety. Dyspnœa occasionally occurs from some thick tenacious mucus hanging about the fauces and epiglottis; and this is most easily got rid of by changing the position of the patient's head from one side to the other, or raising the head somewhat; if not relieved, open the mouth wide, by means of the tongue-forceps, and this, producing the act of swallowing (?), may put matters straight. If it do not succeed, pull the tongue well out of the mouth, and cause the patient to make a forcible expiration, by sudden firm pressure on his thorax with the left hand and forearm; such a full inspiration will follow that the mucus is either coughed up or swallowed. If the patient be anæmic, he must be carefully watched, more especially if the respiration be full and quick; for insensibility then sets in very rapidly, and if it become too deep, great difficulty will be experienced in getting the respiratory muscles to act properly. Great care must be taken that the body and extremities of the patient should be kept well covered and warm during the operation, as the anæsthetic generally produces a good deal of cutaneous action.

Ether has one very great advantage over those anæsthetics which tend to depress the heart's action; as secondary hæmorrhage is of very rare occurrence. In using chloroform we should never remove the inhaler, but pour chloroform onto it while on the patient's face; or, if we do take it away, it must never be replaced within an inch of the face for the first two or three inspirations. The pink mottled rash, which appeared in patches over the patient's neck and chest, and was considered as due to chloroform alone, is to be found with every anæsthetic except nitrous oxide. Should much pallor be present, or syncope appear imminent, a few whiffs of nitrite of amyl furnish the quickest means of restoring the heart's action. The anæsthetist's bag should always contain a pair of tongue-forceps, a Fergusson's gag, a scalpel, forceps, and tracheotomy tube, and a few capsules of nitrite of amyl. After the operation no food of any kind for three hours, and after that not until asked for. All nutriment used to be cold until next morning. Avoid milk, give beef tea, jelly, and such fruit as grapes and oranges.

Dr. Eastes' remarks were mainly confirmatory of those of Dr. Braine.

THE TREATMENT OF RINGWORM.—Alder Smith, M. B. (*British Medical Journal*), gives the following: I desire now to call attention to a treatment for recent ringworm, where it does not extend over any large extent of surface. It is not a new remedy by any means, but, I believe, a new way of naming a well-known parasiticide. I have been trying for some time to find out what vehicle penetrates most deeply in the hair follicles, and think it is chloroform. Chrysophanic acid is a very good parasiticide and, though it is insoluble in spirit and ether, yet it is soluble in chloroform. Chloroform also dissolves the fatty matter out of the hair follicles, and thus allows the parasiticide dissolved in it to penetrate

deeply. During the last year I have used a solution of seven grains of the acid to the ounce of chloroform to all cases of recent ringworm, and believe it is the most efficient treatment I have yet tried. The small patches should be carefully marked out by cutting the hair very closely on them, and the chloroform solution should be well pressed and dabbed into the places with a minute sponge-mop for five minutes, two or three times a day, accordiag to the amount of irritation produced. The aim of the treatment is not to produce scabs, but to get the solution to penetrate deeply. The sponge-mop should not be much larger than a big pea, and should be continually dipped into the chloroform bottle, as the solution soon evaporates whilst it is pressed into the diseased spot, and leaves the yellow acid dry on the place. Great care must be taken that the solution does not run onto the forehead or into the eyes, and that the person using it does not inhale the vapor. I always give full directions about the care necessary in using such a potent remedy, and only employ it to weak places of the disease. It is well for the nurse to keep her face away from the sponge, and to use the chloroform in a current of air, and not in a small room. The places should be well washed every morning with hot water and soap, to remove any sebaceous matter or crusts, and the hair should be kept closely cut on them till the new hair appears, which is generally in about two or three months; but the remedy should be continued till all the diseased stumps have come out.

GONORRHŒA INSONTIUM (BLENNORRHAGIA OF CHILDREN, INDEPENDENT OF SEXUAL CONTACT).—The *Lyon Medical* gives an interesting résumé of this subject. Prof. de Amicis has noticed in children the presence of a spontaneous vulvo-vaginitis with a specific coccus; he believes that the coccus of Neisser can be found in the products of catarrhal inflammations without sexual contact.

Dr. Kroner has found the gonococcus in two-thirds of the cases of ophthalmia blennorrhœa in new-born children that have been submitted to his examination.

Tischendorf has seen in the hospital of Hamburg, children suffering from scarlatina or wearing extension apparatus, *acquire* vaginal blennorrhagia where the gonococcus of Neisser was present without any other affection being present. This would seem to show the existence of a spontaneous blennorrhagia in which the presence of the gonococcus went for nothing, being simply a common organism, which might be found in all mucous inflammations.

The partisans of the specific doctrine consider that the child contracts the blennorrhagic vulvitis by infection, either during or after birth. The reason why there is infinitely less of vulvitis than of ophthalmia, is because all children without distinction of sex are exposed to ophthalmia by the absolute frequency of head presentations, while the girls in the very rare proportion of breech presentations (3–100), are exposed to blennorrhagic vulvitis; the length of the urethra, protected by a long prepuce being the safeguard for boys. After birth the chances are equal for the vagina and for the eyes, if a contaminated mother washes the genital organs of a child with the same linen or sponge that she has used for herself. In Cazenave's Annales a case is reported where a mother affected with blennorrhagia, took her two girls, aged 4 and 8 years, into the bath with her and communicated the affection to both of them.

It seems probable that the gonococcus is the sign of a contagion, independent of sexual contact, but dependent in great part to the contact of the bed, the bath, linen, sponges, and perhaps also the dropping of infected urine outside of the vessel intended to receive it under various circumstances. Erosions also, as from scarlatina, or produced by the contact of apparatus, would facilitate the contagion. It is difficult at this stage of the question, to admit a spontaneous blennorrhagia, but a greater and greater reserve should be held in the medico-legal decision of a blennorrhagia attributed to criminal acts, which might arise from accidental causes.

TREATMENT OF THE SOFT CHANCRE BY IODOFORM.—Unna finds (*Monatshefte für praktische Dermatologie. Edin. Med. Jour.*)that for the present no remedy heals the soft chancre more rapidly than iodoform, and none with such certainty obviates the occurrence of a suppurating bubo. The drawback is the peculiar and suggestive odor, which no combination serves entirely or permanently to mask. One cause of the diffusion of the odor is the custom of employing iodoform in powder too much; more than necessary is thus applied, and the powder is apt to be deposited on the clothes during or after application. He therefore advises that iodoform dissolved in ether be used. The sore is first dried with absorbent cotton, then a drop of the iodoform-ether allowed to fall on the sore, and the evaporation of the ether fanned by blowing on it with a hand-ball bellows. Thus a thin coating of iodoform is deposited exactly on the ulcer. Over the ulcer so coated, he places a small piece of perforated iodoform plaster muslin, which has been brought to perfection as regards its preparation by Beiersdorf, Altona. If this appears too thin, a circular band of the same can be wound round the penus, or a strip applied if the ulcer is seated elsewhere. Lastly, to conceal the smell, a piece of cotton wool, perfumed by means of a spirituous solution of curnaim, is placed over all. If desirable, this wool can be sprayed over with some volatile aromatic fluid. When the ulcer occurs in the meatus urinarius, he supplies the patient with a pencil of iodoform composed as follows:

℞. Iodoformi.....10.0
Gummi Arabici.....3.0
Gummi Tragacanthæ...1.0
Glycerini.....1.0
Aq.....q.s Misci fiat bacilli, N. 5

These are kept in a little wooden box. After voiding urine, the pencil, made pointed, is dipped in water and several times introduced with a screwing motion into the meatus. A small piece of the perfumed wool is now passed in between the lips, and a larger piece wrapper round the glans. Unna further remarks that these pencils serve as valuable prophylactics against infection from gonorrhœa or soft sore.

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THE EDITOR of this JOURNAL would be glad to receive any items of general interest in regard to local events, or matters that it is desirable to call to the attention of the profession. Letters written for publication or containing items of information, should be accompanied by the writer's full name and address, although not necessarily to be published. All communications in regard to editorial work should be addressed to the Editor.

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SATURDAY, JANUARY 31, 1885.

OVARIOTOMY STATISTICS.—Our readers will remember that in the JOURNAL of Oct. 25, 1884, we published a brief letter from Prof. Donald Maclean, correcting a simple error in the date of an ovariotomy alluded to by him, in a debate in the Section of Obstetrics and Diseases of Women of the American Medical Association, at the last annual meeting, which was followed in the JOURNAL of Nov. 15, by a note from Dr. R. S. Sutton, saying that he had a "Death Certificate" of another case, and asking if Prof. Maclean would add this to his previous correction. To this the latter replied in the JOURNAL of Nov. 29, declaring that if such certificate existed, it was either a gross blunder or a forgery. To offset this, Dr. Sutton promptly forwarded to us the certificate he held, asking for its early publication. It was in the usual form of death certificates used in cities where such are required by law, and on its face gave the cause of death as "*Ovariotomy.*" But careful examination showed that it was not signed either by the attending physician of the deceased or the operating surgeon. And further information showed that the signer of the certificate had done it to accommodate the undertaker, and had given the cause of death as a "Surgical Operation" without assuming to know or state what kind of operation it was. Afterwards some other party, whom we have not been able to identify, crossed out the words "Surgical Operation," and inserted the word "Ovariotomy" without the knowledge of the signer of the certificate. In that condition it appears to have been sent to Dr. Sutton. Of course, *such* a certificate is utterly worthless, except as an example of how carelessly many death certificates are filled, and we refused to publish it.

From several sources, including Prof. Maclean himself, we learn that the death to which the certificate referred, was that of a lady who had suffered many years, and until near the stage of fatal exhaustion, not from ovarian cysts on tumors, but from such symptoms as are supposed to be sometimes relieved by Battey's operation or technically Oöphorectomy, which operation was performed just before the patient died.

When we published, a few weeks since, in this JOURNAL, the case of Successful Ovariotomy, by Dr. Geo. E. Ranney, of Lansing, Mich., we had no knowledge of the fact, that the same case had already been reported by Dr. E. W. Jenks, of Detroit, and published in the *Medical Age* of that city. The number of the *Age* containing it had escaped our observation. Having published the case as reported by Dr. Ranney, we could not properly refuse to publish the letters of both Drs. Jenks and Ranney, in which each gives his own exposition of facts and circumstances in full, by which we think every attentive reader will infer that as the two gentlemen had mutually participated in the performance of an important surgical operation, they should have equally coöperated in reporting it for publication. Having given both parties a full hearing, we do not feel at liberty to encumber our pages with any further personal controversy on the subject.

CORRECTIONS: In the list of *Permanent Members* of the American Medical Association, published in the JOURNAL for December 27, 1884, the name of W. J. Herdman, of Ann Arbor, Mich., is incorrectly given as W. J. Heronnan.—The residence of A. H. Steen, of Cottage Grove, Minnesota, is incorrectly placed in Wisconsin, and I. P. Klingensmith, of Blairsville, Pa., is wrongly placed at Derry Station, Pennsylvania.

In the JOURNAL for January 10, 1885, is a brief paper on the Treatment of Diphtheria, by Dr. J. W. Brown, of New York, which was discussed by many of the members of the Section of Diseases of Children at the recent meeting of the American Medical Association. As the report of the secretary of that Section appeared to have been prepared with more care than usual, we ventured to append his notes of the discussion to the paper as published. But Dr. S. C. Busey, of Washington, D. C., writes us that the remarks attributed to him on page 32 are so far incorrect that he would not recognize them as representing anything he had said.

INSTABILITY OF MEDICAL INTERESTS DEPENDENT ON MUNICIPAL OR COUNTY POLITICS.—The Cook County Hospital, which is the legal receptacle for the sick poor of Chicago and Cook Co., is under the direct control and management of the Board of County Commissioners, a certain proportion of whom are elected annually.

The Board appears to have adopted the rule of electing the members of the medical and surgical staff of the Hospital at the commencement of each year, and of allowing each Commissioner to name one member of the staff. While this affords an admirable opportunity for each Commissioner to reward, with an appointment, either his own family physician or such other medical man as may have rendered him most aid in securing his own election, it destroys entirely the stability of the medical staff of the Hospital, and greatly impairs its usefulness for clinical instruction. At a recent meeting of the Board of Commissioners, when each Commissioner had named his member of the Hospital Staff, aggregating fourteen, it was found that five of the most active and efficient members of the old staff had been dropped.

To obviate this, the Board immediately voted to enlarge the Staff, and elected the *five* as "members at large." At the same sitting eight so-called Homœopaths were elected to attend the hospital wards, set apart for their service, thus giving to the Cook County Hospital a Medical and Surgical Staff of twenty-seven doctors of "all sorts."

Numerically, this should certainly be sufficient to prevent any suffering on the part of the poor patients, for lack of professional attendance. As if to still further demonstrate the unreliability of anything medical under the control of the County Board, the Central Free Dispensary, which had hitherto been accommodated in the basement of the Rush Medical College, and made useful for clinical instruction, was ordered to be removed to rooms in the College of Physicians and Surgeons, with a good prospect of continuing an annual migration until it has had a brief residence in each of the four medical colleges surrounding the County Hospital square.

We allude to these local affairs simply to illustrate the general proposition that no medical college in this country can rely upon any public hospital under municipal, *i. e.*, political, control for its important department of clinical instruction; and as a consequence, every medical college to ensure permanence, and a high degree of usefulness, must have an adequate general hospital, substantially under the control of its own faculty of instruction. Time and experience has compelled both the old and leading medical schools in Philadelphia to erect their own hospitals. Progress is being made in the same direction in New York and other cities. The Chicago Medical College in this city has from its beginning to the present, had its own ample hospital clinical advantages, wholly independent of municipal or political influence; and the Rush Medical College, which was the first to attach itself to the County Hospital and follow it to its present location, has already practically acknowledged its mistake by procuring the erection and opening of the new Presbyterian Hospital on its own grounds.

We claim that a public general hospital located in the midst of a population sufficient to keep, at least, 75 to 100 beds filled with patients, should be regarded as much an essential part of a medical school worthy of patronage, as an anatomical, histological, or chemical laboratory. And the advanced students should be divided into suitable classes for systematic personal clinical instruction in the Hospital and dispensary wards, as thoroughly as the Juniors are in the laboratories just named.

SOCIETY PROCEEDINGS.

REMOVAL OF UTERUS AND OVARIES BY ABDOMINAL SECTION, FOR FIBRO-MYOMATA. DEATH ON TWELFTH DAY, FROM SEPTICÆMIA.

BY J. M. BARTON, M. D., PHILADELPHIA, PA.

Read before the Philadelphia County Medical Society, December 17, 1884.

Mrs. K., æt. 31 years, was brought to me, last September, by Dr. M. B. Dwight, of Jersey Shore, Pa. She was very pale, the face and lips being entirely colorless; indeed, the appearance of the patient suggested the presence of malignant disease. She had to be carried to her room on her arrival in this city. She had been losing more blood than she should for several years, and for several months she had a daily loss, frequently in quite large amounts, and was losing strength rapidly.

On examination a large, hard, smooth and freely movable tumor, evidently the uterus, extending three inches above the umbilicus, was found; by the sound, Dr. Dwight's diagnosis of a sub-mucous fibroid with extensive uterine attachments, was readily confirmed.

As the uterus was entirely out of the pelvis, as the attachments of the tumor occupied more than three-fourths of its entire circumference, and as the remaining uterine wall was much thinned, removal by the vagina was plainly impossible. I advised extirpation of the ovaries, if accessible, or of the entire uterus if, on exploration, it appeared preferable.

The patient returned to her home, as she preferred to have the operation performed there, to which I agreed, as I considered the mountain air much more favorable for operation and after-treatment than the wards of a general hospital.

On September 30 I visited Jersey Shore and removed the growth, assisted by Drs. Dwight and Cline,

of that place; Drs. Detweiler and Youngman, of Williamsport; Dr. Armstrong, of Lockhaven, and Dr. Orville Horwitz, of Philadelphia.

Thorough antiseptic precautions were taken; the hands of the operator and assistants were washed in carbolic-acid solution, all the instruments and ligatures were immersed in a similar mixture, the sponges were washed in a warm solution of the same acid, the abdomen of the patient was washed first with turpentine, then with soap and water, and lastly with carbolic-acid solution.

I made an incision through the abdominal wall, midway between the umbilicus and pubes, about two and a half inches long, through which I readily drew the right ovary; the left, however, could not be reached. Finding the uterus free from adhesions, and movable, we decided to remove it. I increased the incision until it ran nearly from ensiform cartilage to pubes, carefully checking all hæmorrhage by forceps and catgut ligatures before opening the peritoneum; the uterus was readily lifted from its bed and placed upright, the left broad ligament was attached posteriorly and the left ovary laid against the spine, showing that it could not have been reached through the original incision. The intestines were held away from the uterus and supported by large flat sponges, wrung out of warm carbolic-acid solution. The broad ligaments were tied in sections with carbolized silk and Thomas's large clamp placed upon the neck of the uterus.

Surrounding the parts with sponges, to prevent blood entering the peritoneal cavity, into which so far none had escaped, the uterus and both ovaries were rapidly removed; there being but little tension on the pedicle, we decided to treat it outside.

The stump was trimmed so as to leave but little projecting above the clamp; it was transfixed by a large pin and was seared on its cut surface by the actual cautery, the wound was closed by the interrupted suture introduced from within in the usual manner. It was not found necessary to make the "toilette of the peritoneum," as, thanks to the care of my assistants, no blood had been allowed to enter that cavity, and, indeed, but little was lost during the entire operation.

The uterus was seven inches in diameter and nearly a sphere; it was occupied by a single fibromyoma, which was attached to the entire uterine walls, with the exception of a narrow channel about two inches wide, running from neck to fundus; on section, it presented the usual appearance of such growths, except in its centre, where it appeared to have undergone sarcomatous degeneration; this suspicion was subsequently confirmed on microscopical examination.

The after-treatment of the case was in the hands of Dr. Dwight, from whose very complete notes I take the following points:—

The evening of the operation the temperature rose to 102.5°, the pulse to 120; under opium suppositories and occasional hypodermics of morphia, the patient was quite comfortable; she took nothing whatever into the stomach, except small quantities of hot water, and had no vomiting. On the second day the thermometer rose to 104°, the maximum temperature observed.

On the third day she took some barley-water and in the evening some beef-tea, the general condition being improved and improving still more on the fourth day.

On the fifth day (Oct. 4) the bowels were moved by an enema; opium stopped; beef-tea, brandy and warm milk were taken freely; the patient was quite comfortable.

On the sixth day (Oct. 5), patient rested well during the night, takes warm milk every three hours; pulse stronger, 120; temperature 101°; patient looks quite bright; natural movement of the bowels.

The notes of the seventh, eighth and ninth days are almost identical with the last one read, except that stitches were removed, and on the ninth day there is considerable pus coming from wound, and some swelling of the right parotid gland. On the tenth day the swelling of the parotid gland increased; there were evidences of systemic poisoning; and on the evening of the eleventh day she died.

At the autopsy, there was no inflammation of intestine, there was no pus found in lungs, liver or kidneys, though there was some in the abdominal cavity—this had probably entered a day or two before her death, and from it the blood-poisoning, which proved fatal, arose.

CHICAGO MEDICAL SOCIETY.

A regular stated meeting of the Society was held January 3, 1885.

Upon motion, duly seconded, the reading of scientific papers was temporarily deferred, and the following preamble and resolutions were submitted by the Secretary in behalf of the Memorial Committee, upon the death of Dr. Chaffee. In doing so, the speaker stated that but a few months previously the deceased called upon him, and during the conversation said how well to do he was, and that he hoped soon to be able to take a vacation. His auditor was *rather* impressed at the time that what was intended in those remarks, as much as any other, was "the uncertainty of life." Dr. Chaffee was elected a delegate to the American Medical Association last year, but professional duties rendered him unable to accept the proffered honor:

WHEREAS, It has pleased the Ruler of the Universe to arrest the course of our friend and neighbor, Dr. C. W. Chaffee, while he was yet in the prime of healthful vigor and usefulness, and actively engaged in discharging, as usual, the daily duties of his calling—

Resolved, That in the death of Dr. Chaffee, this Society has lost a conscientious and successful practitioner, and a colleague in whose keeping the reputation and interests of any professional brother were safe from harm.

Resolved, That the community has lost a genial companion, a faithful servant, a useful and upright citizen, and the sick poor have lost a ready benefactor.

Resolved, That this Society extend to the bereaved family and friends assurances of sincere sympathy.

Resolved, That these resolutions be incorporated in the records of the Society, and that a copy be forwarded for publication to each of the daily papers of the city and to the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, and that a suitably engrossed copy be transmitted to the family of the deceased.

(Signed)

FLAVIUS M. WILDER,
C. J. SIMONS,
WM. E. QUINE,
Committee.

"Diphtheria, with Remarks on the Germ Theory, and Treatment of Cases with Alcohol," by Dr. G. H. Chapman, was the lengthy title of the first paper read, which was also extensive, yet the writer did not enter minutely into this subject, but simply gave a few facts which have in his experience proven of value in combating this disease, of which the following extracts have been taken:

And first, as to its development. Is it local in character, or does it involve the whole system? Both theories have their advocates. Perhaps the most recent and well-founded theory is that given by Oertel, and confirmed by others, "that the disease is first local, and afterward develops into a general disease, and moreover, that the infection is kept up by the local disease. The micrococci first attach themselves to the pharyngeal mucous membrane, where they multiply and produce inflammation of the adjacent tissues, and the membrane becomes filled with micrococci, which force their way between the epithelial cells. The cells begin to die and ulceration takes place, the mouths of the lymphatics open, and the micrococci pass in. Early in the disease no micrococci are found in the blood, but after the constitutional symptoms have become severe, masses of them will be found in the vessels, and the germ invades the white blood corpuscles, which after a time will be found filled with micrococci; they will be found in the kidneys, and in the capillaries, forcing their way between the muscular fibres of the heart, and throughout the body, leading to destruction of tissue.

"Drs. Wood and Formad, of Philadelphia, during their experiments found that when the attempt was made to inoculate animals with the poison derived from an ordinary case of diphtheria, as it appeared in that city, it failed to produce the disease, but when taken from those who were subjects of malignant diphtheria, it invariably succeeded in infecting the lower animals. They also produced diphtheria with micrococci when cultivated in soups, even to the fourth or fifth generation. They further found in ordinary saliva a micrococcus which cannot be distinguished from that found in the membrane from the most malignant case of diphtheria, except that those of the former would not produce the disease, and also that the severity of the poison was directly as infectious as the virulence of the epidemic from which the poison was taken. The former gentleman thinks that diphtheria is produced by micrococci that are present in everybody's mouth." These are the conclusions of those who have spent years in the investigation of this subject, with abundance of material at their disposal.

If, as they affirm, "micrococci can be found in ordinary saliva which in no way differs from those found in the malignant diphtheritic membrane," except possibly that they are inert, even though found only in the saliva of those who frequent or inhabit an infected district, it would seem to prove that they alone are not responsible for the development of diphtheria. There must be conditions for their rapid reproduction which are not yet understood; and may it not be, that these micrococci find in this degenerated or septic condition of the fluids and tissues a good field for growth and development in an active form, and still not be the primary cause of diphtheria?

Be the disease, however, purely local or general in its origin; be there micrococci or no micrococci as a primary cause of its development, the stubborn fact remains that in nine cases out of ten, when the physician is first summoned to attend a case of diphtheria, he finds abundant evidence of general systemic disturbance, varying in degrees of intensity from simple circulatory excitement to the most profound degree of prostration, the same as that which is found in septæmia, and as such we are obliged to treat it.

A severe form of this disease manifested itself in South Chicago during the fall and winter of 1881 and 1882. In the first six weeks of the epidemic the writer treated seven cases, with two deaths and one protracted recovery out of three malignant cases. The treatment in these cases was, externally, the free use of camphorated oil with turpentine, and applying to the membrane every five or six hours, with a camel's-hair brush, the following:

℞ Acid carbolic..... ...℥i.
Liq ferri sub. sulph.....℥iii.
Glycerine.....℥iv.
M.

and during the intervals, he directed frequent gargling the throat with a saturated aqueous solution of chlorate of potash. Internally, there was administered tr. ferri hydrochlor, and quinine in doses suitable to the age of the patient, giving to a child eight years of age, two grains of quinine and six drops of tr. iron every three hours. In the case which seemed malignant and recovered, dry sulphur was used after the fourth day, blown freely into the throat and nasal cavities after cleansing with the chlorate of potash solution.

There had been up to this time about twenty cases in the immediate vicinity, with twelve deaths; other physicians, foreign and local, having no better success in combating the disease than the writer. At this time his attention was called to the free use of alcohol in this disease in an article published in the Boston *Journal of Chemistry*, and another article published in the *Eclectic Medical Journal*, of Cincinnati, also to the details of experiments on diphtheritic membrane in Ziemssen's Cyclopædia, Vol. 1, p. 680, from which it was inferred that alcohol was one of, if not the best, agent to destroy or render inert the micrococci, and he determined to give alcohol a fair trial, and use this remedy diluted with chlorate of

potash, as a gargle, every half-hour, always washing the mouth with the solution of potash before the patient took either medicine, food or drink. Dry sulphur in the throat and nasal cavities was also used, with the internal use of whiskey sling or milk punch as hot and strong as could be borne, and only to be limited by the amount which could be tolerated by the patient without producing intoxication, along with other agents, as diuretics, anti-febrile remedies, etc., etc., as each case seemed to demand.

As a result of this trial the writer reported that his succeeding twenty-eight cases were carried to a successful termination, with one exception, and in none of them was a brush or probang used to the throat.

The alcohol, in every case, could be used very strong, and it would almost invariably cause the membrane to shrivel up like burning leather, and within thirty-six to forty hours from time of commencement of treatment every trace of membrane disappeared. Tr. Verat. Viride et Tr. Opii Deod. were given in some cases for fever during the congestive stage only.

During the past two years Dr. Chapman has relied on the liquor ferri sub. sulph. and carbolic acid mixture, applied to the throat with a camel's hair brush twice or thrice a day, or still more frequently. This plan he pursued instead of blowing in sulphur with a bellows or through a goose-quill. The sheet-anchor, however, is alcohol in every stage of the disease, and from his experience in using it he is led to think we can secure much better results from this remedy than to rely on the harsher methods of treatment.

DISCUSSION.

Dr. G. C. Paoli thought the author of the paper was too prone to follow out routine treatment in diphtheria, whereas no such form can be laid down in the treatment of this disease. Malignant cases may live only two, three, or at most five days, and this is not the fault of the physician. However, alcohol is no new remedy in treating these cases. It has been used for years, mostly, though, in the form of wine. Alcohol may be given in these cases to destroy fungi or bacilli, on the same theory that it is given as an antidote for snake-bites in those who have been bitten by poisonous reptiles. But the question arises: will alcohol save cases where there is a fibrous exudation of the tonsils, pharynx and other organs, where it is of an ashy gray appearance, where the maxillary and cervical glands are involved, where a patient has a dusky hue of the face with cyanotic lips, feeble heart and feeble pulse, fœtid breath, hyperæmia of the brain, etc? He should hesitate about giving the remedy, on general principles. But instead, the first thing that should be done is to use antiseptics, as oil of eucalyptus, which will destroy the bacilli. For young children we should use it with an atomizer, for they cannot gargle their throat. Where there is ulceration of the nasopharyngeal space, hæmorrhage may set in; if so, nothing will check it. Internally we should give tr. iodine in water, say four drops every hour to a child five years of age, and apply with a probe or brush to the throat any of the well known antiseptics. It is no use to give them quinine and tr. iron, for these remedies they cannot take, and besides they interfere with the secretion of the kidneys and liver. He would like to speak upon some of the sequelæ of diphtheria, as paralysis of the larynx, septic poisoning, spinal difficulties, etc., but he believed the paper did not dwell upon these.

Dr. R. Tilley desired to add his testimony to the special value of tr. iodine in these cases, although no one individual remedy can be used in all of them. He also thought corrosive sublimate was beneficial, and he placed great reliance upon it. But he preferred the use of hot baths in the early stage of this disease as being beneficial to facilitate profuse perspiration instead of using tr. veratrum viride. No one disbelieves but what bacteria is a causative agent of this disease. He is satisfied that this is true.

Dr. J. J. M. Angear.—The "microscopist" has settled it, that micro-organisms or microbes are a cause of diphtheria. Alcohol, as is well known, destroys vegetable growths. A fifteen per cent solution of alcohol prostrates or paralyzes them, and if the remedy is continued it would kill them. He therefore thought it a good local application. But these germs flourish best in a high temperature. We cannot get alcohol as strong as a fifteen per cent solution to circulate in the blood. Therefore how does it kill them when the blood contains them? Then, too, why the utility of administering alcohol and veratrum? Do not these remedies antagonize each other? There is harmony between the germ theory and the local use of alcohol. But he would think cold applications were preferable to hot drinks, or preferable to hot baths, for the reason that germs flourish better under a high temperature.

Dr. A. Leigh.—In an experience of treating between 100 and 120 cases of diphtheria during the past four years, stated that of all agents *per se, hot or cold*, there was none better than a concentrated or dilute preparation of the perchloride of iron; but where a case is truly malignant, and where there is purpura hæmorrhagica, no treatment will save them. Alcohol, hot or cold, is a good cardiac stimulant, but quinine will do the work better. A tincture of the preparation of iron just alluded to would produce contraction or hardening and shriveling of the membrane. There is no possible doubt but what micrococci are present in the throat in this disease. Therefore, if these cases are seen early, and if the iron is applied, a benefit will be derived, except where the case is profoundly malignant. He thinks tincture of aconite is superior to veratrum to bring about free diaphoresis.

Dr. H. J. Reynolds had come to the conclusion that there were no remedies that had a specific effect on diphtheria, whether it was of germ origin or not; the most that could be done was to rely upon supporting measures to help the patient along until the disease subsided. If the membrane enters the larynx, he advises inhalation of steam. He thought no benefit would be derived from alcohol or veratrum. Where the disease is malignant at the onset, as he had seen cases, with a pulse of 190 per minute, no treatment was beneficial.

Dr. W. H. Curtis inquired of the last speaker how

he managed to count the pulse when it arose to 190 per minute?

Answered meekly and politely, "By the watch."

Dr. A. Goldspoon said that he had treated one hundred cases of diphtheria during the past two years. He alluded to the constitutional disturbance as not being solely due to the amount of local invasion in all cases. He had seen great constitutional disturbance present when the local signs were quite insignificant, and cited a case of this kind occurring to a little girl who died in ten hours from the time she was attacked. The system was so depressed that she died of heart failure. In such cases it would be reprehensible to administer aconite or veratrum. To reduce the temperature he relies upon quinine. Alcohol cannot be given sufficiently concentrated to act throughout the circulation as a germicide, constitutionally. It may do good as a local agent, but the former idea, he thinks, is surely inconsistent.

Dr. Paoli—It is a historical fact that diphtheria appears in countries and at a season when the temperature is very low, and the disease is equally as destructive. Alcohol may prove beneficial in some cases that are peculiarly asthenic.

The President recited an epitome of Morrill McKenzie's views upon the pathology and treatment of diphtheria, and Dr. Chapman closed the discussion by stating that it was difficult, and even impossible, to produce intoxication in a patient having diphtheria. He claimed that by treating cases this way paralyses were less liable to follow. He is sure it also quiets the cerebral symptoms, such as delirium, and does not increase hyperæmia of the brain. Regarding the administration of veratrum and alcohol alternately, he does this during the first, or congestive stage, or until perspiration is well established. His experience and success with this treatment have been far better than brother physicians of his neighborhood had been who did not treat their cases similarly. He certainly would continue to do so, even if it did appear to be in discord. To continue giving alcohol, in the form of whisky, we should commence early, and by so doing the fungi are destroyed, and we prevent their entering the blood vessels by using the remedy freely and constantly, or if a few do enter the circulation it was not so bad as if they passed in in swarms.

The following is an abstract of an article on "Manganese as a Remedy in Menstrual Troubles," by Dr. Franklin H. Martin:

Manganese was first recommended as a remedy for amenorrhœa, in an article published Jan. 6, 1883, in the *London Lancet*, by Ringer and Murrell. After a goodly number of experiments upon dispensary and private patients the results of the writer's investigations were published in the *New York Medical Record*, September 29, 1883. That report elicited considerable correspondence, giving the results of the investigations of others. Dr. Martin has continued his experiments with considerable zeal, ever since, and he thinks he is able to add much confirmatory evidence to what has already been said. He is convinced that manganese will relieve certain forms of menorrhagia and metrorrhagia, as well as amenorrhœa. As these several conditions are dependent upon so many different causes, it is very necessary for us to discriminately point out the exact conditions in which manganese is indicated.

From his observations, he is led to consider manganese in any form a direct stimulant to the uterus and its appendages. Its influence may be exerted by acting as a direct vaso-motor nerve stimulant to the vascular system of these organs, and in consequence of improved circulation it directly increases the tone and nutrition of the organs, or it may exert its whole force through stimulation of the sexual nerve-ganglia, or even, possibly, the *sexual nerve*-centers, thereby bringing these organs to their normal state of action. At any rate its action is prompt and direct in bringing the uterus and appendages to a normal state of menstrual tonicity, when lack of tone is dependent upon some previous depression of innervation.

In the following typical cases, one may see that even when the cause of the depression is still acting, this remedy will exert its stimulating power on the menstrual mechanism:

CASE I is that of a young woman, 18 years of age. In consequence of phthisis, had not menstruated for four months. Experimentally, she was given permanganate of potash. As a result, menstruation occurred within a week.

CASE II. Another young woman, 24 years of age, with an aggravating digestive trouble of some years' standing, had become very irregular; she would flow profusely for a week or two, then scantily for an equally irregular period, again, perhaps, followed without warning by a profuse flow, or, as likely, with complete cessation. This state of affairs had continued for more than a year. She had no dysmenorrhœa. Patient was very weak and anæmic from indigestion and loss of blood. She was given two-grain doses of permanganate of potash night and morning, dissolved in hot water. The menstrual irregularity left her immediately, and she improved in general health at once.

In young girls who are irregular in the early months of menstrual life, where it is caused by natural weakness of the partially developed organs of generation, or when, from an over-worked nervous system, the organs are robbed of their natural nerve force, permanganate of potash seems to possess the stimulating properties requisite to bring about healthy action. The following is a typical case of this kind: A young woman who had menstruated once, sought advice. Eight months had passed and the flow had failed to appear again. The permanganate was given in two-grain doses twice a day. Within a week she menstruated the second time in her life. In two other cases of "missing menstrual periods" in young girls, without any apparent cause or any other symptoms, the remedy was given in the same dose before the next regular period was expected, which stimulated the organs to a normal flow.

Since the above cases were reported, he has had many opportunities of testing the drug in similar cases, and invariably with good results. From exposure to cold the weakest organs of the body

will be most liable to suffer. A woman who is thus exposed immediately suffers from suppression, cessation, or excess of the menstrual flow; she will invariably be found to possess susceptible and weak menstrual organs. In cases of this kind, caused by "taking cold," with no other apparent cause, the most gratifying and prompt results are obtained from manganese. The last described variety of cases are of so frequent occurrence that many opportunities have been offered to test this remedy, and not yet is there a failure to be recorded in either amenorrhœa or menorrhagia, when due to irritation from the effects of cold alone. In several cases where the flow was a week or ten days "overdue," caused by cold, the permanganate was given in large doses, and its almost magical effect was demonstrated by the flow appearing within twelve hours.

Manganese is an efficient remedy for certain forms of *menorrhagia* and *metrorrhagia*.

Although menorrhagia and amenorrhœa in their outer manifestations are exactly opposite in nature, they are very often dependent upon the same causes. When the cause is anæmia, or any depressing constitutional disease producing a perversion of the functional activity of the menstrual organs, and this perverted action consists of an irregular or excessive flow, this condition will as readily yield to the stimulating effects of manganese, as when the opposite condition exists. The following cases are of interest:

A woman, aged 26, sought advice for excessive and irregular flowing. She had been married two years; she had one child twelve months old, which was large and strong, while the mother physically was of slight build, yet she nursed the child ten months and stood the strain very well, until she began to fail. Suddenly she grew weak and anæmic and began to flow excessively. This continued with but a few short irregular remissions until she called at the South Side Dispensary, where she was given two-grain doses of permanganate of potassium four times a day. All other treatment was discontinued. In three days the patient returned saying that the flow had stopped the next day after receiving her medicine. She continued treatment and received permanent relief.

The next case of interest was that of a large, stout woman, 35 years of age, who came to the Dispensary suffering from menorrhagia. Menstruation was regular as to time, but quantity of flow was alarmingly excessive. She is married and has three children, youngest 3 years of age. This abnormal condition of menstruation had been coming on by degrees for a year. The uterus was slightly enlarged and soft to the touch, otherwise, on making a physical examination, nothing abnormal was noticeable. Four days before the expected flow she commenced taking the permanganate, in two-grain doses, three times a day. Menstruation came on at the expected time, and after a normally free flow for four days it passed off naturally. The treatment was repeated at her subsequent periods with the same result.

The above histories were written a year ago. Since that time many cases of menorrhagia and metrorrhagia have been observed to succumb to the effects of manganese.

The above cases illustrate well the almost magical effect of this drug upon the menstrual organs as a stimulant, and if it is properly given, much good can be obtained from its employment.

Dr. T. Gaillard Thomas said very recently in an address delivered by him, "Permanganate of potash as an excitant of the menstrual flow is, I think, the best emmenagogue which has yet been discovered."

Dr. Robert Bartholow, in a recent article on permanganate of potassium said: "The powers possessed by permanganate of potassium as a general stimulant are well exhibited in the active emmenagogue, properties which it has been shown to possess by Drs. Ringer and Murrell. In cases of amenorrhœa, due to deficient activity, it seems to promote the function in a remarkable degree. The same power which can so stimulate the sexual functions, must, when exerted in other directions, prove equally effective."

Although manganese, like the allied metals, nickel, zinc, iron and silver, has a direct influence on the blood as a tonic in anæmia, chlorosis, etc., it cannot be possible, in the writer's opinion, that its peculiar influence on the catamenia alone depends upon that virtue, for its action is too prompt. To influence the organs of menstruation by acting as a general tonic, would necessarily be a slow process. From the testimony of good authorities, however, it undoubtedly acts as a general tonic.

Manganese can be administered in the form of permanganate of potash or the binoxide of manganese. The permanganate of potash should be administered dissolved in water, and when possible, it should be taken after eating. It can also be taken in dry gelatine capsules. However, when given diluted, it is less likely to irritate the stomach. The binoxide, although less liable to be absorbed by the stomach, on account of its insolubility, is not irritating, and can be readily administered in pill form.

Dr. Paoli stated that the remedy so highly lauded in the paper, he thinks was first used in London three years ago. During the past two years he has tried it in a number of cases, and found it a very serviceable remedy in many cases of disordered menstruation resulting from the bad effects of either cold or dampness, yet in a number of cases the drug proved to be of no value whatever. In one case he cited, the remedy was taken in one-grain pills three times a day, for a month. In another case he used it two months before menstruation appeared. He has also in several other cases given it in two-grain doses, but for a much shorter duration.

Dr. J. Haven said he had used manganese in more than fifty cases, the majority of which were cases of suppressed or retarded menstruation caused by the result of cold, and he was much pleased with the results he had obtained.

Dr. H. J. Reynolds had never used the remedy, but certainly should prescribe it hereafter, after having heard the interesting paper read containing so much evidence in its favor.

The Society then adjourned.

LISTON H. MONTGOMERY.

STATE MEDICINE.

HEALTH IN MICHIGAN, DECEMBER, 1884.

Reports to the State Board of Health, Lansing, by observers in different parts of the State, show the diseases which caused most sickness in Michigan during the month of December (5 weeks ending Jan. 3), 1885, as follows:

Number of Weekly Reports Received, 234.		For Preceding Month.
Diseases Arranged in Order of Greatest Prevalence.	Per Cent. of Reports Stating Presence of Disease.	Per Cent. of Reports Stating Presence of Disease.
Rheumatism	77	70
Neuralgia	72	72
Bronchitis	70	67
Tonsillitis	56	58
Consumption of lungs	54	58
Intermittent fever	53	60
Influenza	52	42
Remittent fever	40	44
Diarrhœa	36	46
Pneumonia	34	29
Erysipelas	25	27
Inflammation of kidney	23	2
Typho-malarial fever	21	35
Diphtheria	19	19
Inflammation of bowels	17	19
Whooping-cough	17	13
Typhoid fever (Enteric)	16	22
Scarlet fever	15	13
Membranous croup	10	10
Cerebro-spinal meningitis	9	4
Cholera morbus	6	12
Dysentery	6	10
Puerperal fever	5	6
Inflammation of brain	5	8
Measles	4	6
Cholera infantum	3	8

For the month of December, 1884, compared with preceding month, the reports indicate that inflammation of kidney, influenza, and rheumatism increased, and that typho-malarial fever, diarrhœa, and intermittent fever, decreased in prevalence.

Compared with the average for the month of December in the six years, 1879–1884, inflammation of bowels, cerebro-spinal meningitis, influenza, neuralgia, and erysipelas, were more prevalent, and intermittent fever, diphtheria, consumption of lungs, pneumonia, and membranous croup, were less prevalent in December, 1884.

For the month of December, 1884, compared with the average of corresponding months for the six years, 1879–1884, the temperature was considerably lower, the relative humidity was more, and the absolute humidity and the day and the night ozone were less.

Including reports by regular observers and others, diphtheria was reported in Michigan in the month of December, 1884, at 49 places, namely: Amsdon, Armada, Ann Arbor, Byron Center, Bruce, Boardman, Bloomingdale, Constantine, Cadillac, Detroit, Danby, Dowagiac, Emmett, East Saginaw, Franklin, Green Oak, Grand Rapids, Genoa, Hanover, Holly, Hudson, Hastings, Harrisville, Ingham township, Ishpeming, Kalamazoo, Lowell, Meredith, Muskegon, Marengo, Manistee, Northville, Owosso, Orange, Orleans, Pinconning, Pontiac, Porter township, Port Huron, Quincy, Royal Oak, Richmond, St. Johns, Texas, Vassar, Venice, Vernon, Watervliet, Wyandotte. Scarlet fever at 36 places: Armada, Albion, Brockway Center, Carson City, Detroit, Dowagiac, East Saginaw, Freesoil, Fawn River, Grand Rapids, Grand Haven, Garfield, Hanover, Howell, Ida, Ishpeming, Ithaca, Kalamazoo, Leavitt, Lansing, Leelanaw, Manistee, Muskegon, Negaunee, No. Muskegon, Northport, Owosso, Pontiac, Quincy, Sears, So. Haven, Texas, Thornville, Westphalia, Whitehall, Wyandotte. Measles at six places: Detroit, East Saginaw, Fawn River, Grand Rapids, Port Huron, Whitehall. Small-pox at South Boardman.

HENRY B. BAKER,
Lansing, Jan. 9, 1885. *Secretary.*

FOREIGN CORRESPONDENCE.

BERLIN LETTER.

BERLIN, Dec. 20, 1884.

Every practitioner here seems to be a thoroughly good pathologist, and it is quite common for a professor to prepare some elaborate microscopical slide while conversing with his pupils. Thus it was at Prof. Fraenkel's clinic the other day. He had reason to suspect some pulmonary trouble in a patient, and in a very few moments he had prepared an excellent slide of the bacillus tuberculosis. In the same way Prof. Senator gave a most interesting account of the pathological history of interstitial hepatitis, and its relation to heart trouble. Wolfe's public lectures every Monday afternoon, are full of practical points for the cultivation of bacilli, and their microscopical demonstration. Prof. Fritsch extends the courtesies of his laboratory to any physician interested in special work; he himself is engaged upon icthyological inquiries. Dr. Rabe Rückard in his course of normal histology, begins with the organs on Jan. 2, having finished the tissues, and Dr. Immanuel Munk gives a private course to physicians in physiology with microscopical demonstration every Wednesday and Saturday evening, from 5–7. Dr. Waldeyer's course does not begin until March. The practical course in the physiological laboratory with vivisections has been discontinued. Prof. Kronecker having been called to Berne, Prof. Du Bois Reymond and Prof. Munk give didactic and experimental lectures. The faculty and Dr. Schweninger are still at sword's point. The Dean, Prof. Dr. Leyden, went to Munich, where Dr. Schweninger, as Privat Docent, had been employed in the University, and established beyond question of reasonable doubt, the truth of the many damning rumors which had followed Bismarck's physician to Berlin. He submitted everything, together with the reasons which rendered it necessary for Dr. Schweninger to leave Munich, to the Prime Minister, but it is doubtful if any action will be taken. Meanwhile to the disgust of many the "anti-fat" doctor keeps a firm grip upon his honorary position as "Professor of Dermatology" in the University. Koch has confirmed the experiments of Nicati and Rietsch, and has produced cholera in the lower animals by inoculation of the coma-bacil-

lus. Of the German valuation of modified listerism, there can be but one opinion. Everything surgical is done under full antiseptic precautions, and I have yet to hear of any carbolic acid poisoning, even though Dr. Martin's laparotomy room is so surcharged with the spray that seeing is difficult, and many students have been unable to stand it. The good results attendant upon some of the most unfavorable cases are due to no other cause, for, as a rule, German operations are not as cleanly as those in America. Their technique is not any more commendable, and their facility no greater than that which characterizes our own operators. Everything is done under the spray—not playing, necessarily, upon the patient, but the operating-room is kept well filled with the carbolized spray. Thornton's late results in London, together with continental results and customs, are strong points in his argument against Tait, which argument, on both sides, is somewhat stripped of its interest and permanent scientific value by the bitter personalities which mar its every sentence. Another great advantage is the arrangement of the laparotomy rooms, the detail of skilled assistants, and the constant association with every variety of disease calling for surgical interference. The operating rooms at Charite, in Artillerie street, and at Dr. Martin's private hospital, have stone floors and walls, all of which can be washed down with carbolized water, or the room can be flooded with the disinfecting fluid, if so it is willed. The patients operated upon are taken to similar rooms, entirely shut off from other parts of the hospital. There is even a broader field here for conservative gynæcology than there is at home. Landau is making a brave single-handed fight, and for so young a man has achieved much. He has a large practice, and an influence that is constantly widening. He is partially supported by Gusserow, but Schröder and most of the others are quite bitterly opposed to him. He is, however, a man of parts, and is leaving his impress upon German literature. I cannot help thinking that Dr. Landau's logic is conclusive, and that his conservatism is really more scientific and of more permanent value than the unending round of operations that characterizes German gynæcology. I have heard it said that Americans were prone to resort over frequently to Emmet's operation, and I think there is truth in the assertion; but as compared with the way in which cervices are amputated in whole or in part in Berlin, for lacerations and erosions which I am convinced could be treated more rationally upon the conservative plan, our operations are only as drops in the bucket. It seems to me that at this pace the number of women in Berlin with normally preserved uteri must be extremely small; indeed, the students have a saying there is not a woman living on the same street in which Dr. Martin's hospital is situated who has an entire cervix uteri. The temptation to resort to operation for the glory of publishing statistics and for achieving professional renown is a great one, and is inflicting incalculable injury upon gynæcology. But he achieves far more, ultimately, who waits patiently and conquers symptoms by well-regulated treatment.

H. R. B.

DOMESTIC CORRESPONDENCE.

To the Editor of the Journal of the American Medical Association.

In the Journal of the 3d inst. appears a statement from Dr. E. W. Jenks, of Detroit, claiming to have been the principal in making an operation which I performed and reported to the Journal of the 29th of November last. Dr. Jenks says: "I was waited on by Dr. Ranney on the 6th of October last, and received from him a description of the case referred to, and a statement of his relations to it. He had assumed charge of it, and had advised an operation, which he had engaged himself to undertake. It was one the importance of which he fully realized, and the realization convinced him of the advisability of having present at the operation some operator of experience."

This much is true, though I did not call upon Dr. Jenks with the intention of asking him to be present at the operation. I had not seen him since his removal from Chicago. He had written me from Chicago a friendly letter announcing his purpose of returning to Michigan. In view of our old acquaintance and cordial relations I called on him, as stated above. In the course of the conversation at the time, I mentioned to him that I was going to perform ovariotomy on the next day but one. The doctor asked me if I had everything I wanted. I replied by saying that I would have before leaving the city. "Have you a large steamer?" asked the doctor. I said that I had not, but had small ones which I intended to use. "Mine is all in order," said Dr. Jenks, "and you can use that." He seemed to *want* me to take it, and I was "charitable" enough to do so. I said I would have to provide myself with a larger trocar than I had, and he said that he had an extra large one which he would lend me. He spoke of some other instruments it might be desirable to have in certain emergencies. He was very cordial and his hospitality was ample. I finally said: "Doctor, there is not much money in this case, and, while I do not want to insult you, I will say that if you will come down and help me, I will divide what money comes out of it." He accepted the offer. I invited him, however, as a matter of professional courtesy and professional policy, knowing that should the case result fatally, "every fool would be meddling," and "busybodies speaking things which they ought not." I was treating other patients at Grand Ledge at the time, and could manage the case in question with less trouble than I otherwise could. In the course of the conversation, from something the doctor said, I feared, that, on the strength of my invitation, he considered himself "engaged to operate," as he states in his letter to the Journal. So, in order that there might be no misunderstanding, I said: "Doctor, I expect to *operate* myself; I want you to help." He then asked what part I wanted him to do. I said, "Whatever may be required as we go on with the operation." He then remarked that he presumed there would be enough for both of us to do. Said he: "I would like to

make the first incision." To this latter remark I made no reply, nor did I deem the matter of any importance, though he has since urged it as a strong point. There was nothing said about my not wanting to "appear as a dead-head in the enterprise," nor did I ask him to "let me do as much as possible."

Before leaving Dr. Jenks' house, I said to him that it might be well, if he had no objections, for me to take along the trocar, so that I might have it in case he should not come. He replied by saying that he would come. Early on the day of the operation I visited the patient, but before leaving Lansing, arranged with Dr. Post to come later on the cars, and that in case Dr. Jenks came to accompany him to the residence of the patient. Dr. Post asked me if the operation would be delayed in case Dr. Jenks should not come? "Certainly not," said I. Drs. Post and Jenks met on the train and came to the house together. Dr. Jenks says that he subsequently learned that the fact of his intended presence had been carefully kept from the knowledge of both the family of the woman and the local profession. Though the matter was of no special importance, I did mention it at the first opportunity I had, and also the fact that "*my large Weir's atomizer*" belonged to Dr. Jenks. On his arrival, however, he was not slow to investigate its running, and to call attention to the fact that the "machine" was his, and we were not allowed to forget the fact, for before leaving the house he in one way or another, called attention to the fact four different times. (Price of steamer $11.25.) Dr. Jenks did not see the patient till everything was ready for the operation, nor until I assisted the patient to the operating table. The husband of the patient informs me, that after the patient was placed on the table, Dr. Jenks called him one side and asked him if he was aware that his wife might not survive the operation? The husband told him that I had so informed him. Dr. Wright informs me that Dr. Jenks then called him one side and asked him if the family were aware that the patient might die on the table? I submit that it was not Dr. Jenks' business nor duty, but my own, to advise the friends of my patient of the dangers of the operation. I did not *ask* Dr. Jenks or any one else to "confirm" my diagnosis. Dr. Post administered the ether, after which I marked with an "indelible" pencil the site for the abdominal incision, and remembering Dr. Jenks' request to let him make the first incision, I handed him the knife and asked him to make it. He cut near to the linea alba and said he could not find it. I then took a probe and felt for, found it, and slightly opening the peritonæum, passed a grooved director, and together we opened it to the full extent of the external incision. We both explored the tumor. Through a large rupture in the cyst the doctor "prodded" round, as I suppose, to find another cyst, which, by exploration with my hand, I found did not exist. The doctor says: "After the tumor had been sufficiently reduced to permit its extraction, I applied Storer's shield at the junction of the pedicle and the cyst." Now, if it will be of any consolation to him, I will admit that the shield should be included in any inventory that might be made of the instruments he brought, but I do most emphatically deny that it was used, or that there was any occasion for its use.

I first grasped the pedicle with my right hand, and lifted with my left the remaining portion of the tumor through the incision. As it emerged from the abdomen it tended to draw forcibly the pedicle, and its weight made it difficult to hold. At this juncture I politely requested (but did not "instruct") Dr. Jenks to remove a portion of the tumor I was holding in my left hand, in order to diminish its weight, while we should secure the pedicle. This he did. Then, without any "instruction," though by a polite request from me, he handed me a pair of compressing forceps. They having concave jaws, would not compress the pedicle, so I requested him to hand me forceps that would tightly compress it. He then handed me a pair whose blades were less concave, but were still too much so to produce the necessary pressure. Dr. Jenks then applied a pair of straight-jawed forceps, but as they were adjusted to one side of the pedicle, I politely requested him to apply a pair of forceps to the other side. Accordingly he applied a pair which included a portion of the pedicle already compressed, but not reaching to the opposite edge of the pedicle; so I requested him to adjust a pair to include that portion not compressed by the first two, which he did. The jaws of the compressing forceps first adjusted were long enough to have completely compressed the pedicle had it been well adjusted, which, owing to hurry, poor eyesight, *or some other cause*, he failed to do. After the three large forceps were adjusted I had my hands full to manage them and the pedicle, especially as I had to look after another large pair of compressing forceps, which Dr. Jenks, without "instruction," or even polite request from me, attached, early in the operation, to the walls of the abdomen, from which it was dangling. It was applied to a capillary vessel, which did not even emit a jet of blood when cut. It was done before I could get to it with artery forceps to twist it. These forceps caused a large slough, and endangered the life of the patient, and would have proven fatal only for the fortunate circumstance that the peritonæum healed by first intention. With all these instruments in place Dr. Jenks handed me Storer's clamp-shield, and "instructed" me to adjust it, but I politely informed him I hadn't room, and handed them back, and they were not applied. These instruments were all the doctor's, and were selected from a nice variety of others, the most of which, by the way, looked very bright and new.

The doctor says that the tumor was multilocular instead of unilocular. I do not know how he ascertained that to be true except that "*ovariotomists of experience* would expect it to be from its size, and after having discovered the peculiar consistency of its contents," notwithstanding his remark, after we were well along with the operation, that he feared the tumor was malignant! Had the "experienced ovariotomist" then discovered more than one cyst?

Dr. Jenks says: "After severing the stump, I cauterized the end thereof with my Paquelins thermocautery." I never before witnessed such an ostenta-

tious display of instruments. I submit that it was not essential to mention how the metal was heated except to give notice that Dr. Jenks has a Paquelins thermo-cautery. I had at hand every instrument and dressing required. I had disinfected my sponges and boiled my silk thread after arriving at the house in the morning. The doctor brought a large number of instruments, at his own instance, but not by my request. He seemed desirous of having them used in the operation. He was the most "forward" assistant I ever saw at an operating table. Though his officiousness was distasteful to me as it was, I think, to all present, and though his vanity blinded him to the rights and merits of others, I thought, as he was my guest, there was no harm in humoring his conceit by letting him "swash," not thinking he was attempting as "flat a burglary as ever was committed;" and if I permitted him to do more than assistants usually do it was through politeness and courtesy on my part. The disinfected gauze, mackintosh and wire used were my own, as were part of the instruments employed.

The doctor in referring to the removal of a portion of the tumor which had escaped into the abdomen, undertakes in a most presumptuous way to "damn me with faint praise," and says that I rendered him valuable assistance in the dexterous manipulation of the sponge; that he is under obligations to me, etc. Others are under still greater obligations to me for the same, for at least two pounds of the material was removed after Dr. Jenks proposed to close the wound, which he says he closed by means of silver wire. Now that was done by myself as much as by him, as we assisted each other in that, as in about all other parts of the operation, except when the patient bled terrifically from the cite of an adhesion when the doctor stepped back from the table and exclaimed: "Doctor she is bleeding to death;" repeated the exclamation and added: "if you can do anything for her, do it." To this I made no response but soon had the hæmorrhage under control.

Now at this juncture, had the patient died, would Dr. Jenks or any one else have claimed that *he* was the principal in the case? I would not have done so, certainly. He speaks of the patient's recovery being due to my carrying out his instructions! "What strong meat does this our Cæsar feed upon," that he, in his conceited pride and pedantic ignorance, lavishes upon me his "instructions" which were as gratuitous as they were presumptuous, and which were not heeded by me in the least.

I assumed the responsibility of, and met every emergency in the case, notwithstanding Dr. Jenks' effort to "grasp the skirts of happy (?) chance" to add to his waning laurels as a specialist.

True it was something to have come from Detroit, but Dr. Jenks' experience and observation should have taught him, ere this, that "promotion cometh not from the east nor from the west." I think I am safe in saying that I have done as much difficult and successful surgery as has Dr. Jenks. I never engaged him or any one else to operate for me. I have been assisted, however, by men, who, in my estimation, were more able, but who never arrogated to themselves the credit of operating for me, even though they may have made, in the modesty of true science, a polite suggestion; nor do I think they have felt their dignity so weak, as to be impaired by acting as such assistants.

The first I was made aware that Dr. Jenks claimed the case was conveyed to me in the following letter:

GRAND LEDGE, Nov. 1, 1884.

DR. GEO. E. RANNEY:

Dear Sir.—Dr. Messenger, of this place, has just shown me a report of my mother's case, published in the "*Medical Age*," of Detroit, which was sent him by Dr. Jenks, of Detroit. The report says that Dr. Jenks made the operation, and mentions your name, among others, as one of the assistants. What does that mean? We certainly did not employ Dr. Jenks to make the operation, and the report seems unjust to you, and certainly contrary to the facts as I observed and understood them.

Yours truly,
JAMES E. TAYLOR.

GRAND LEDGE, MICH., Nov. 1, 1884.

GEO. E. RANNEY, M.D., Lansing Mich:

I observed a statement in the Detroit *Medical Age*, that Dr. Jenks, of Detroit, removed an ovarian tumor from Mrs. Edwin Taylor, of Grand Ledge, on the 8th of Oct., which statement was indeed a surprise to me. As I had treated her for some time previous, and even up to the time the operation was performed, and being informed by Mr. Taylor that he had employed you to perform the operation, and knowing nothing of Dr. Jenks, or that he intended to be present, I certainly considered her your patient, and undoubtedly the other physicians who assisted considered it likewise. I being present at the operation, do not see wherein Dr. Jenks could possibly claim the honor of performing said operation, and I write you for information.

Respectfully yours,
A. J. WRIGHT, M.D.

Dr. Davis heard that the operation was credited to Dr. Jenks, and left word with the husband of the patient that he would like me to call on him some day when convenient. I accordingly did so, when he expressed surprise that Dr. Jenks should have claimed to have made the operation. I then asked him to express the same in writing. He was then in haste to answer an urgent professional call, and said he would write it as soon as he got home and send it by mail. He accordingly sent me the following letter.

GRAND LEDGE, Nov. 12, 1884.

DR. RANNEY:

Dear Sir.—I was present and assisted you in a case of ovariotomy on Mrs. Taylor, of Grand Ledge. I understand the case has been credited to Dr. Jenks, but I cannot imagine for what reason. From the first I regarded you as the responsible one and principal in the case. Yours truly,
W. A. DAVIS.

The above are statements made "in the interest of truth and honesty," by all present at the operation save one, whose verbal statement, with his permission, I would be glad to quote.

GEO. E. RANNEY.

LANSING, Jan. 12, 1885.

THE LIBRARY CATALOGUE AND INDEX. Published by Shepherd & Johnson, Chicago.

This is a very neatly prepared book, with spaces for 1,500 titles. The first part of the work is ruled as a catalogue, with spaces for titles, authors' names, number of volumes, size, binding, publishers, place

and date of publication, cost, position in library, and remarks. The second part is arranged for an alphabetical index.

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MISCELLANEOUS.

AMERICAN MEDICAL ASSOCIATION; RAILROAD NOTICE.—The Illinois Central R. R. will run an excursion train of Pullman Palace cars from Chicago through to New Orleans without change, for members and other physicians and their families who attend the coming meeting of the American Medical Association; leaving Chicago on Saturday evening at 9 o'clock of April 25, and arriving at the Crescent City on Monday morning at 9 o'clock the 27th. The rates from Sioux City, Dubuque, Galena, Amboy, Chicago, St. Louis, Bloomington, Centralia, DuQuoin, Cairo, and other points along this line, will be as low as can consistently be made. It is safe to predict that this will not exceed one cent per mile each way or, to illustrate, $20 for the round trip from Chicago.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF THE OFFICERS SERVING IN THE MEDICAL DEPARTMENT OF THE UNITED STATES ARMY, FROM JANUARY 17, 1885 TO JANUARY 23, 1885.

Tremaine, W. S., Major and Surgeon, granted leave of absence for one year, on surgeon's certificate of disability. (S. O. 14 A. G. O., Jan. 17, 1885.)

Maus, Louis M., Captain and Assistant-Surgeon, granted leave of absence for two months, on surgeon's certificate of disability, with permission to leave the Division of the Missouri. (S. O. 16, A. G. O., Jan. 20, 1885.)

Stephenson, Wm., First Lieutenant and Assistant-Surgeon, relieved from duty at Ft. Omaha, Neb., and ordered to Ft. Niobrara, Neb., for duty. (S. O. 6, Dept. of Platte, Jan. 19, 1885.)

OFFICIAL LIST OF APPOINTMENTS, PROMOTIONS AND CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE, OCTOBER 1, 1884, TO DECEMBER 31, 1884.

Bailhache, P. H., Surgeon, granted leave of absence for thirty days, Oct. 9, 1884. To proceed to Wilmington, N. C., as Inspector, Nov. 10, 1884. Relieved from duty as chief of Purveying Division; to proceed to Philadelphia, Pa., and assume charge of the Service Dec. 10, 1884.

Wyman, Walter, Surgeon, granted leave of absence for fifteen days, Oct. 15, 1884. Leave of absence for fifteen days in December, 1884, and thirty days in January, 1885; also for a further period from Jan. 31, 1885, without pay, and with permission to visit Europe, Dec. 8, 1884.

Purviance, George, Surgeon, when relieved to proceed to Cincinnati, Ohio, and assume charge Nov. 12, 1884; to Louisville, Ky., as Inspector, Nov. 24. 1884.

Austin, H. W., Surgeon, to proceed to Boston, Mass., and assume charge Nov. 12, 1884.

Smith, Henry, Surgeon, when relieved to proceed to Cairo, Ill, and assume charge Nov. 9, 1884. Granted leave of absence until Jan. 15, 1885, Dec. 17, 1884.

Stoner, G. W., Passed Assistant Surgeon, relieved from duty at Delaware, Breakwater Quarantine, to proceed to Cairo, Ill., in accordance with former orders, Oct. 14, 1884; to Norfolk, Va., Nov. 19, 1884.

Irwin, Fairfax, Passed Assistant Surgeon, to close Cape Charles Quarantine, Oct. 31, 1884, proceed to Washington, and report to Surgeon General, Oct. 14, 1884; to take charge of the Service port of Georgetown, D. C., and detailed as Acting Chief Clerk, Surgeon General's office, Oct. 30, 1884; to Philadelphia, Pa., and Baltimore, Md., as Inspector, Dec. 30, 1884.

Mead, F. W., Passed Assistant Surgeon, when relieved to proceed to Baltimore, Md., and assume temporary charge Dec. 10, 1884.

Heath, W. H., Passed Assistant Surgeon, granted leave of absence for thirty days, on account of sickness, Oct. 24, 1884. When relieved, to proceed to Pittsburgh, Pa., and assume charge Dec. 26, 1884.

Guitéras, John, Passed Assistant Surgeon, to report to Surgeon-General, Nov. 8, 1884. Leave of absence extended fifteen days without pay, Nov. 14, 1884.

Wheeler, W. A., Passed Assistant Surgeon, relieved at Chicago, Ill., to proceed to Buffalo, N. Y., and assume charge, Dec. 26, 1884.

Banks, C. E., Passed Assistant Surgeon, when relieved, detailed for special duty; upon completion of same, to Boston, Mass., for duty, Oct. 28, 1884.

Peckham, C. T., Passed Assistant Surgeon, granted leave of absence for twenty days, Dec. 26, 1884.

Bennet, P. H., Assistant Surgeon, when relieved to rejoin his station (Detroit) Nov. 20, 1884.

Ames, R. P. M., Assistant Surgeon, to report to Surgeon Hutton, at Louisville, Ky., for examination for promotion, Nov. 13, 1884.

Devan, S. C., Assistant Surgeon, to proceed to Tacoma, W. T., as Inspector, Oct. 14, 1884.

Kalloch, P. C., Assistant Surgeon, granted leave of absence for thirty days, Nov. 19, 1884.

Glennan, A. H., Assistant Surgeon, to proceed to Key West, Fla., for temporary duty Oct. 8, 1884.

Battle, K. P., Assistant Surgeon, granted leave of absence for thirty days on account of physical disability, Dec. 6, 1884.

Brooks, S. D., Assistant Surgeon, to proceed to New York, N.Y., for temporary duty Oct. 20 and Nov. 26, 1884.

White, J. H., Assistant Surgeon, to proceed to New Orleans, La., for temporary duty, Oct. 3, 1884. To escort insane seamen to Government Hospital for the Insane, Dec. 17, 1884. Granted leave of absence for fifteen days Dec. 23, 1884.

RESIGNATION.

Smith, Henry, Surgeon, resignation accepted by the Secretary of the Treasury, to take effect Jan. 15, 1885. Dec. 17, 1884.

APPOINTMENT.

White, Joseph H., M.D., of Georgia, having passed the examination required by the Regulations, was appointed an Assistant Surgeon by the Secretary of the Treasury, Oct. 2, 1884.

PROMOTIONS.

Peckham, C. T., Passed Assistant Surgeon, promoted and appointed Passed Assistant Surgeon by the Secretary of the Treasury from Dec. 1, 1884. Nov. 28, 1884.

Ames, R. P. M., Passed Assistant Surgeon, promoted and appointed Passed Assistant Surgeon by the Secretary of the Treasury from Dec. 1, 1884. Nov. 28, 1884.

Devan, S. C., Passed Assistant Surgeon, promoted and appointed Passed Assistant Surgeon, by the Secretary of the Treasury, from Dec. 1, 1884. Dec. 5, 1884.

Urquhart, F. M., Passed Assistant Surgeon, promoted and appointed Passed Assistant Surgeon by the Secretary of the Treasury, from Dec. 1, 1884. Dec. 5, 1884.